

## SEQUENCE LISTING

<110> Daggett, Lorrie  
Morales, Sylvia  
Schaffhauser, Herve

<120> NUCLEIC ACID SEQUENCES ENCODING NOVEL  
POINT MUTATIONS ON mGluR2 AND mGluR3, POLYPEPTIDES WITH SAID  
MUTATIONS, AND METHODS OF USING SAID NUCLEIC ACID SEQUENCES,  
AND SAID POLYPEPTIDES, TO IDENTIFY, PREDICT AND EVALUATE  
SPECIFIC, SELECTIVE MODULATORS WHOSE ASSOCIATION TO mGluR2  
OR mGluR3 IS EFFECTED BY SAID MUTATIONS

<130> MS0023P

<150> PCT/US03/28470

<151> 2003-09-11

<150> 60/409,910

<151> 2002-09-11

<160> 48

<170> FastSEQ for Windows Version 4.0

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Gly Ala Asp Gly Ser Arg His Ile Cys Pro Asp Gly Ser Tyr Ala Thr
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Ile Ala Arg Ile Phe Gly Gly Ala Arg Glu Gly Ala Gln Arg Pro Arg
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Ser Gly Ser Val Val Leu Gly Cys Leu Phe Ala Pro Lys Leu His Ile
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Ile Leu Phe Gln Pro Gln Lys Asn Val Val Ser His Arg Ala Pro Thr
          820          825          830
Ser Arg Phe Gly Ser Ala Ala Ala Arg Ala Ser Ser Ser Leu Gly Gln
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Asp Cys Gly Pro Val Asn Glu His Arg Gly Ile Gln Arg Leu Glu Ala
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Met Leu Phe Ala Leu Asp Arg Ile Asn Arg Asp Pro His Leu Leu Pro
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Ala Lys Pro Ser Thr Ala Val Cys Thr Leu Arg Arg Leu Gly Leu Gly
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Thr Ala Phe Ser Val Cys Tyr Ser Ala Leu Leu Thr Lys Thr Asn Arg
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Ile Ala Arg Ile Phe Gly Gly Ala Arg Glu Gly Ala Gln Arg Pro Arg
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Phe Ile Ser Pro Ala Ser Gln Val Ala Ile Cys Leu Ala Leu Ile Ser
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Val Gln Leu Leu Ile Val Val Ala Trp Leu Val Val Glu Ala Pro Gly
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Thr Gly Lys Glu Thr Ala Pro Glu Arg Arg Glu Val Val Thr Leu Arg
705          710          715          720
Cys Asn His Arg Asp Ala Ser Met Leu Gly Ser Leu Ala Tyr Asp Val
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Leu Leu Ile Ala Leu Cys Thr Leu Tyr Ala Phe Lys Thr Arg Lys Cys
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Pro Glu Asn Phe Asn Glu Ala Lys Phe Ile Gly Phe Thr Met Tyr Thr
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Thr Cys Ile Ile Trp Leu Ala Phe Leu Pro Ile Phe Tyr Val Thr Ser
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Ser Asp Tyr Arg Val Gln Thr Thr Thr Met Cys Val Ser Val Ser Leu
785          790          795          800
Ser Gly Ser Val Val Leu Gly Cys Leu Phe Ala Pro Lys Leu His Ile
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Ile Leu Phe Gln Pro Gln Lys Asn Val Val Ser His Arg Ala Pro Thr
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Ser Arg Phe Gly Ser Ala Ala Ala Arg Ala Ser Ser Ser Leu Gly Gln
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Gly Ser Gly Ser Gln Phe Val Pro Thr Val Cys Asn Gly Arg Glu Val
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Cys	Asn	His	Arg	Asp	Ala	Ser	Met	Leu	Gly	Ser	Leu	Ala	Tyr	Asp	Val
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Leu	Leu	Gln	Lys	Pro	Ser	Ala	Arg	Val	Ala	Val	Leu	Phe	Thr	Arg	Ser	
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Phe	Thr	Trp	Val	Ala	Ser	Asp	Gly	Trp	Gly	Ala	Leu	Glu	Ser	Val	Val	
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Ser	Tyr	Pro	Ile	Ser	Asp	Phe	Ala	Ser	Tyr	Phe	Gln	Ser	Leu	Asp	Pro	
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Trp	Asn	Asn	Ser	Arg	Asn	Pro	Trp	Phe	Arg	Glu	Phe	Trp	Glu	Gln	Arg	
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Phe	Arg	Cys	Ser	Phe	Arg	Gln	Arg	Asp	Cys	Ala	Ala	His	Ser	Leu	Arg	
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Ala	Val	Pro	Phe	Glu	Gln	Glu	Ser	Lys	Ile	Met	Phe	Val	Val	Asn	Ala	
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Val	Tyr	Ala	Met	Ala	His	Ala	Leu	His	Asn	Met	His	Arg	Ala	Leu	Cys	
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Pro	Asn	Thr	Thr	Arg	Leu	Cys	Asp	Ala	Met	Arg	Pro	Val	Asn	Gly	Arg	
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Arg	Leu	Tyr	Lys	Asp	Phe	Val	Leu	Asn	Val	Lys	Phe	Asp	Ala	Pro	Phe	
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Gly	Ile	Gly	Arg	Tyr	Asn	Ile	Phe	Thr	Tyr	Leu	Arg	Ala	Gly	Ser	Gly	
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Phe	Ile	Ser	Pro	Ala	Ser	Gln	Val	Ala	Ile	Cys	Leu	Ala	Leu	Ile	Leu	
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Cys	Asn	His	Arg	Asp	Ala	Ser	Met	Leu	Gly	Ser	Leu	Ala	Tyr	Asn	Val	
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Thr	Cys	Ile	Ile	Trp	Leu	Ala	Phe	Leu	Pro	Ile	Phe	Tyr	Val	Thr	Ser	
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Ser	Asp	Tyr	Arg	Val	Gln	Thr	Thr	Thr	Met	Cys	Val	Ser	Val	Ser	Leu	
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Ile	Leu	Phe	Gln	Pro	Gln	Lys	Asn	Val	Val	Ser	His	Arg	Ala	Pro	Thr	
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Gly	Ser	Gly	Ser	Gln	Phe	Val	Pro	Thr	Val	Cys	Asn	Gly	Arg	Glu	Val				
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Val	Asp	Ser	Thr	Thr	Ser	Ser	Leu	Thr											
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Val	Leu	Gly	Gly	Leu	Phe	Pro	Val	His	Gln	Lys	Gly	Gly	Pro	Ala	Glu				
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Ser	Asp	Val	Ser	Ile	Gln	Val	Ala	Asn	Leu	Leu	Arg	Leu	Phe	Gln	Ile				
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Lys	Ala	Met	Ala	Glu	Ile	Leu	Arg	Phe	Phe	Asn	Trp	Thr	Tyr	Val	Ser				
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Val	Gly	Arg	Ala	Met	Ser	Arg	Ala	Ala	Phe	Glu	Gly	Val	Val	Arg	Ala				
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Leu	Leu	Gln	Lys	Pro	Ser	Ala	Arg	Val	Ala	Val	Leu	Phe	Thr	Arg	Ser				
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Phe	Thr	Trp	Val	Ala	Ser	Asp	Gly	Trp	Gly	Ala	Leu	Glu	Ser	Val	Val				
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Ser	Tyr	Pro	Ile	Ser	Asp	Phe	Ala	Ser	Tyr	Phe	Gln	Ser	Leu	Asp	Pro				

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Trp	Asn	Asn	Ser	Arg	Asn	Pro	Trp	Phe	Arg	Glu	Phe	Trp	Glu	Gln	Arg				
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Phe	Arg	Cys	Ser	Phe	Arg	Gln	Arg	Asp	Cys	Ala	Ala	His	Ser	Leu	Arg				
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Ala	Val	Pro	Phe	Glu	Gln	Glu	Ser	Lys	Ile	Met	Phe	Val	Val	Asn	Ala				
	370					375					380								
Val	Tyr	Ala	Met	Ala	His	Ala	Leu	His	Asn	Met	His	Arg	Ala	Leu	Cys				
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Pro	Asn	Thr	Thr	Arg	Leu	Cys	Asp	Ala	Met	Arg	Pro	Val	Asn	Gly	Arg				
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Arg	Leu	Tyr	Lys	Asp	Phe	Val	Leu	Asn	Val	Lys	Phe	Asp	Ala	Pro	Phe				
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Arg	Pro	Ala	Asp	Thr	His	Asn	Glu	Val	Arg	Phe	Asp	Arg	Phe	Gly	Asp				
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Gly	Ile	Gly	Arg	Tyr	Asn	Ile	Phe	Thr	Tyr	Leu	Arg	Ala	Gly	Ser	Gly				
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Arg	Tyr	Arg	Tyr	Gln	Lys	Val	Gly	Tyr	Trp	Ala	Glu	Gly	Leu	Thr	Leu				
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Asp	Thr	Ser	Leu	Ile	Pro	Trp	Ala	Ser	Pro	Ser	Ala	Gly	Pro	Leu	Pro				
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Ala	Ser	Arg	Cys	Ser	Glu	Pro	Cys	Leu	Gln	Asn	Glu	Val	Lys	Ser	Val				
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Gln	Pro	Gly	Glu	Val	Cys	Cys	Trp	Leu	Cys	Ile	Pro	Cys	Gln	Pro	Tyr				
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Trp	Pro	Asn	Ala	Ser	Leu	Thr	Gly	Cys	Phe	Glu	Leu	Pro	Gln	Glu	Tyr				
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Ile	Arg	Trp	Gly	Asp	Ala	Trp	Ala	Val	Gly	Pro	Val	Thr	Ile	Ala	Cys				
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Ala	Lys	Pro	Ser	Thr	Ala	Val	Cys	Thr	Leu	Arg	Leu	Gly	Leu	Gly					
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Phe	Ile	Ser	Pro	Ala	Ser	Gln	Val	Ala	Ile	Cys	Leu	Ala	Leu	Ile	Leu				
		675					680					685							
Val	Gln	Leu	Leu	Ile	Val	Val	Ala	Trp	Leu	Val	Val	Glu	Ala	Pro	Gly				
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Thr	Gly	Lys	Glu	Thr	Ala	Pro	Glu	Arg	Arg	Glu	Val	Val	Thr	Leu	Arg				
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Cys	Asn	His	Arg	Asp	Ala	Ser	Met	Leu	Gly	Ser	Leu	Ala	Tyr	Asn	Val				
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Leu	Leu	Ile	Ala	Leu	Cys	Thr	Leu	Tyr	Ala	Phe	Lys	Thr	Arg	Lys	Cys				
			740					745					750						
Pro	Glu	Asn	Phe	Asn	Glu	Ala	Lys	Phe	Ile	Gly	Phe	Thr	Met	Tyr	Thr				

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Thr	Cys	Ile	Ile	Trp	Leu	Ala	Phe	Leu	Pro	Ile	Phe	Tyr	Val	Thr	Ser		
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Ser	Asp	Tyr	Arg	Val	Gln	Thr	Thr	Thr	Met	Cys	Val	Ser	Val	Ser	Leu		
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Asp	Cys	Gly	Pro	Val	Asn	Glu	His	Arg	Gly	Ile	Gln	Arg	Leu	Glu	Ala		
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Met	Leu	Phe	Ala	Leu	Asp	Arg	Ile	Asn	Arg	Asp	Pro	His	Leu	Leu	Pro		
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Gly	Val	Arg	Leu	Gly	Ala	His	Ile	Leu	Asp	Ser	Cys	Ser	Lys	Asp	Thr		
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His	Ala	Leu	Glu	Gln	Ala	Leu	Asp	Phe	Val	Arg	Ala	Ser	Leu	Ser	Arg		
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Ser	Asp	Val	Ser	Ile	Gln	Val	Ala	Asn	Leu	Leu	Arg	Leu	Phe	Gln	Ile		
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Pro	Gln	Ile	Ser	Tyr	Ala	Ser	Thr	Ser	Ala	Lys	Leu	Ser	Asp	Lys	Ser		
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Arg	Tyr	Asp	Tyr	Phe	Ala	Arg	Thr	Val	Pro	Pro	Asp	Phe	Phe	Gln	Ala		
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Lys	Ala	Met	Ala	Glu	Ile	Leu	Arg	Phe	Phe	Asn	Trp	Thr	Tyr	Val	Ser		
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Thr	Val	Ala	Ser	Glu	Gly	Asp	Tyr	Gly	Glu	Thr	Gly	Ile	Glu	Ala	Phe		
		210				215					220						
Glu	Leu	Glu	Ala	Arg	Ala	Arg	Asn	Ile	Cys	Val	Ala	Thr	Ser	Glu	Lys		
225					230				235						240		
Val	Gly	Arg	Ala	Met	Ser	Arg	Ala	Ala	Phe	Glu	Gly	Val	Val	Arg	Ala		
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Leu	Leu	Gln	Lys	Pro	Ser	Ala	Arg	Val	Ala	Val	Leu	Phe	Thr	Arg	Ser	260	265	270
Glu	Asp	Ala	Arg	Glu	Leu	Leu	Ala	Ala	Ser	Gln	Arg	Leu	Asn	Ala	Ser	275	280	285
Phe	Thr	Trp	Val	Ala	Ser	Asp	Gly	Trp	Gly	Ala	Leu	Glu	Ser	Val	Val	290	295	300
Ala	Gly	Ser	Glu	Gly	Ala	Ala	Glu	Gly	Ala	Ile	Thr	Ile	Glu	Leu	Ala	305	310	315
Ser	Tyr	Pro	Ile	Ser	Asp	Phe	Ala	Ser	Tyr	Phe	Gln	Ser	Leu	Asp	Pro	325	330	335
Trp	Asn	Asn	Ser	Arg	Asn	Pro	Trp	Phe	Arg	Glu	Phe	Trp	Glu	Gln	Arg	340	345	350
Phe	Arg	Cys	Ser	Phe	Arg	Gln	Arg	Asp	Cys	Ala	Ala	His	Ser	Leu	Arg	355	360	365
Ala	Val	Pro	Phe	Glu	Gln	Glu	Ser	Lys	Ile	Met	Phe	Val	Val	Asn	Ala	370	375	380
Val	Tyr	Ala	Met	Ala	His	Ala	Leu	His	Asn	Met	His	Arg	Ala	Leu	Cys	385	390	395
Pro	Asn	Thr	Thr	Arg	Leu	Cys	Asp	Ala	Met	Arg	Pro	Val	Asn	Gly	Arg	405	410	415
Arg	Leu	Tyr	Lys	Asp	Phe	Val	Leu	Asn	Val	Lys	Phe	Asp	Ala	Pro	Phe	420	425	430
Arg	Pro	Ala	Asp	Thr	His	Asn	Glu	Val	Arg	Phe	Asp	Arg	Phe	Gly	Asp	435	440	445
Gly	Ile	Gly	Arg	Tyr	Asn	Ile	Phe	Thr	Tyr	Leu	Arg	Ala	Gly	Ser	Gly	450	455	460
Arg	Tyr	Arg	Tyr	Gln	Lys	Val	Gly	Tyr	Trp	Ala	Glu	Gly	Leu	Thr	Leu	465	470	475
Asp	Thr	Ser	Leu	Ile	Pro	Trp	Ala	Ser	Pro	Ser	Ala	Gly	Pro	Leu	Pro	485	490	495
Ala	Ser	Arg	Cys	Ser	Glu	Pro	Cys	Leu	Gln	Asn	Glu	Val	Lys	Ser	Val	500	505	510
Gln	Pro	Gly	Glu	Val	Cys	Cys	Trp	Leu	Cys	Ile	Pro	Cys	Gln	Pro	Tyr	515	520	525
Glu	Tyr	Arg	Leu	Asp	Glu	Phe	Thr	Cys	Ala	Asp	Cys	Gly	Leu	Gly	Tyr	530	535	540
Trp	Pro	Asn	Ala	Ser	Leu	Thr	Gly	Cys	Phe	Glu	Leu	Pro	Gln	Glu	Tyr	545	550	555
Ile	Arg	Trp	Gly	Asp	Ala	Trp	Ala	Val	Gly	Pro	Val	Thr	Ile	Ala	Cys	565	570	575
Leu	Gly	Ala	Leu	Ala	Thr	Leu	Phe	Val	Leu	Gly	Val	Phe	Val	Arg	His	580	585	590
Asn	Ala	Thr	Pro	Val	Val	Lys	Ala	Ser	Gly	Arg	Glu	Leu	Cys	Tyr	Ile	595	600	605
Leu	Leu	Gly	Gly	Val	Phe	Leu	Cys	Tyr	Cys	Met	Thr	Phe	Ile	Phe	Ile	610	615	620
Ala	Lys	Pro	Ser	Thr	Ala	Val	Cys	Thr	Leu	Arg	Arg	Leu	Gly	Leu	Gly	625	630	635
Thr	Ala	Phe	Ser	Val	Cys	Tyr	Ser	Ala	Leu	Leu	Thr	Lys	Thr	Asn	Arg	645	650	655
Ile	Ala	Arg	Ile	Phe	Gly	Gly	Ala	Arg	Glu	Gly	Ala	Gln	Arg	Pro	Arg	660	665	670
Phe	Ile	Ser	Pro	Ala	Ser	Gln	Val	Ala	Ile	Cys	Leu	Ala	Leu	Ile	Leu	675	680	685
Gly	Gln	Leu	Leu	Ile	Val	Val	Ala	Trp	Leu	Val	Val	Glu	Ala	Pro	Gly			

690	695	700
Thr Gly Lys Glu Thr Ala	Pro Glu Arg Arg Glu Val Val Thr Leu Arg	
705	710	715
Cys Asn His Arg Asp Ala	Ser Met Leu Gly Ser Leu Ala Tyr Asp Val	
	725	730
Leu Leu Ile Ala Leu Cys Thr Leu Tyr Ala Phe Lys Thr Arg Lys Cys		
	740	745
Pro Glu Asn Phe Asn Glu Ala Lys Phe Ile Gly Phe Thr Met Tyr Thr		
	755	760
Thr Cys Ile Ile Trp Leu Ala Phe Leu Pro Ile Phe Tyr Val Thr Ser		
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Ser Asp Tyr Arg Val Gln Thr Thr Thr Met Cys Val Ser Val Ser Leu		
785	790	795
Ser Gly Ser Val Val Leu Gly Cys Leu Phe Ala Pro Lys Leu His Ile		
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Ile Leu Phe Gln Pro Gln Lys Asn Val Val Ser His Arg Ala Pro Thr		
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Ser Arg Phe Gly Ser Ala Ala Ala Arg Ala Ser Ser Ser Leu Gly Gln		
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Val Asp Ser Thr Thr Ser Ser Leu Thr		860
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Asp Cys Gly Pro Val Asn Glu His Arg Gly Ile Gln Arg Leu Glu Ala	
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Arg Tyr Asp Tyr Phe Ala Arg Thr Val Pro Pro Asp Phe Phe Gln Ala	
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	185
	190

Lys	Ala	Met	Ala	Glu	Ile	Leu	Arg	Phe	Phe	Asn	Trp	Thr	Tyr	Val	Ser		
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Glu Cys Gly Pro Val Asn Glu His Arg Gly Ile Gln Arg Leu Glu Ala
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Met Leu Phe Ala Leu Asp Arg Ile Asn Arg Asp Pro His Leu Leu Pro
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Gly Val Arg Leu Gly Ala His Ile Leu Asp Ser Cys Ser Lys Asp Thr
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Pro Gln Ile Ser Tyr Ala Ser Thr Ser Ala Lys Leu Ser Asp Lys Ser
      165            170            175
Arg Tyr Asp Tyr Phe Ala Arg Thr Val Pro Pro Asp Phe Phe Gln Ala
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Lys Ala Met Ala Glu Ile Leu Arg Phe Phe Asn Trp Thr Tyr Val Ser
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      225            230            235            240
Val Gly Arg Ala Met Ser Arg Ala Ala Phe Glu Gly Val Val Arg Ala
      245            250            255
Leu Leu Gln Lys Pro Ser Ala Arg Val Ala Val Leu Phe Thr Arg Ser
      260            265            270
Glu Asp Ala Arg Glu Leu Leu Ala Ala Thr Gln Arg Leu Asn Ala Ser
      275            280            285
Phe Thr Trp Val Ala Ser Asp Gly Trp Gly Ala Leu Glu Ser Val Val
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Trp	Asn	Asn	Ser	Arg	Asn	Pro	Trp	Phe	Arg	Glu	Phe	Trp	Glu	Glu	Arg
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Phe	His	Cys	Ser	Phe	Arg	Gln	Arg	Asp	Cys	Ala	Ala	His	Ser	Leu	Arg
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Ala	Val	Pro	Phe	Glu	Gln	Glu	Ser	Lys	Ile	Met	Phe	Val	Val	Asn	Ala
	370					375					380				
Val	Tyr	Ala	Met	Ala	His	Ala	Leu	His	Asn	Met	His	Arg	Ala	Leu	Cys
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Pro	Asn	Thr	Thr	His	Leu	Cys	Asp	Ala	Met	Arg	Pro	Val	Asn	Gly	Arg
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Arg	Leu	Tyr	Lys	Asp	Phe	Val	Leu	Asn	Val	Lys	Phe	Asp	Ala	Pro	Phe
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Arg	Pro	Ala	Asp	Thr	Asp	Asp	Glu	Val	Arg	Phe	Asp	Arg	Phe	Gly	Asp
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Gly	Ile	Gly	Arg	Tyr	Asn	Ile	Phe	Thr	Tyr	Leu	Arg	Ala	Gly	Ser	Gly
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Arg	Tyr	Arg	Tyr	Gln	Lys	Val	Gly	Tyr	Trp	Ala	Glu	Gly	Leu	Thr	Leu
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Asp	Thr	Ser	Phe	Ile	Pro	Trp	Ala	Ser	Pro	Ser	Ala	Gly	Pro	Leu	Pro
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Ala	Ser	Arg	Cys	Ser	Glu	Pro	Cys	Leu	Gln	Asn	Glu	Val	Lys	Ser	Val
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Trp	Pro	Asn	Ala	Ser	Leu	Thr	Gly	Cys	Phe	Glu	Leu	Pro	Gln	Glu	Tyr
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Thr	Ala	Phe	Ser	Val	Cys	Tyr	Ser	Ala	Leu	Leu	Thr	Lys	Thr	Asn	Arg
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Phe	Ile	Ser	Pro	Ala	Ser	Gln	Val	Ala	Ile	Cys	Leu	Ala	Leu	Ile	Ser
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Cys	Asn	His	Arg	Asp	Ala	Ser	Met	Leu	Gly	Ser	Leu	Ala	Tyr	Asp	Val
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Ser	Arg	Phe	Gly	Ser	Ala	Ala	Pro	Arg	Ala	Ser	Ala	Asn	Leu	Gly	Gln		
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Gly	Ser	Gly	Ser	Gln	Phe	Val	Pro	Thr	Val	Cys	Asn	Gly	Arg	Glu	Val		
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His	Ser	Asp	Ala	Pro	Thr	Ala	Val	Thr	Gly	Val	Ile	Gly	Gly	Ser	Tyr		
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Lys	Ala	Met	Ala	Glu	Ile	Leu	Arg	Phe	Phe	Asn	Trp	Thr	Tyr	Val	Ser		
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Thr	Val	Ala	Ser	Glu	Gly	Asp	Tyr	Gly	Glu	Thr	Gly	Ile	Glu	Ala	Phe		
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Arg	Leu	Tyr	Lys	Asp	Phe	Val	Leu	Asn	Val	Lys	Phe	Asp	Ala	Pro	Phe
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Thr	Ala	Phe	Ser	Val	Cys	Tyr	Ser	Ala	Leu	Leu	Thr	Lys	Thr	Asn	Arg
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Lys	Ala	Met	Ala	Glu	Ile	Leu	Arg	Phe	Phe	Asn	Trp	Thr	Tyr	Val	Ser	
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Cys	Asn	His	Arg	Asp	Ala	Ser	Met	Leu	Gly	Ser	Leu	Ala	Tyr	Asp	Val
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Leu	Leu	Ile	Ala	Leu	Cys	Thr	Leu	Tyr	Ala	Phe	Lys	Thr	Arg	Lys	Cys
			740					745					750		
Pro	Glu	Asn	Phe	Asn	Glu	Ala	Lys	Phe	Ile	Gly	Phe	Thr	Met	Tyr	Thr
		755				760					765				
Thr	Cys	Ile	Ile	Trp	Leu	Ala	Phe	Leu	Pro	Ile	Phe	Tyr	Val	Thr	Ser
	770					775					780				
Ser	Asp	Tyr	Arg	Val	Gln	Thr	Thr	Thr	Met	Cys	Val	Ser	Val	Ser	Leu
785					790					795					800
Ser	Gly	Ser	Val	Val	Leu	Gly	Cys	Leu	Phe	Ala	Pro	Lys	Leu	His	Ile
				805					810					815	
Ile	Leu	Phe	Gln	Pro	Gln	Lys	Asn	Val	Val	Ser	His	Arg	Ala	Pro	Thr
			820				825						830		
Ser	Arg	Phe	Gly	Ser	Ala	Ala	Pro	Arg	Ala	Ser	Ala	Asn	Leu	Gly	Gln
		835				840					845				
Gly	Ser	Gly	Ser	Gln	Phe	Val	Pro	Thr	Val	Cys	Asn	Gly	Arg	Glu	Val
	850					855					860				
Val	Asp	Ser	Thr	Thr	Ser	Ser	Leu	Thr							
865					870										

&lt;210&gt; 20

&lt;211&gt; 873

&lt;212&gt; PRT

&lt;213&gt; Rat

&lt;400&gt; 20

Met	Glu	Ser	Leu	Leu	Gly	Phe	Leu	Ala	Leu	Leu	Leu	Leu	Trp	Gly	Ala
1				5					10					15	
Val	Ala	Glu	Gly	Pro	Ala	Lys	Lys	Val	Leu	Thr	Leu	Glu	Gly	Asp	Leu
			20				25						30		
Val	Leu	Gly	Gly	Leu	Phe	Pro	Val	His	Gln	Lys	Gly	Gly	Pro	Ala	Glu
		35				40						45			
Glu	Cys	Gly	Pro	Val	Asn	Glu	His	Arg	Gly	Ile	Gln	Arg	Leu	Glu	Ala
	50					55					60				
Met	Leu	Phe	Ala	Leu	Asp	Arg	Ile	Asn	Arg	Asp	Pro	His	Leu	Leu	Pro
65					70					75					80
Gly	Val	Arg	Leu	Gly	Ala	His	Ile	Leu	Asp	Ser	Cys	Ser	Lys	Asp	Thr
				85					90					95	



His	Ala	Leu	Glu	Gln	Ala	Leu	Asp	Phe	Val	Arg	Ala	Ser	Leu	Ser	Arg		
			100					105					110				
Gly	Ala	Asp	Gly	Ser	Arg	His	Ile	Cys	Pro	Asp	Gly	Ser	Tyr	Ala	Thr		
		115					120					125					
His	Ser	Asp	Ala	Pro	Thr	Ala	Val	Thr	Gly	Val	Ile	Gly	Gly	Ser	Tyr		
		130					135				140						
Ser	Asp	Val	Ser	Ile	Gln	Val	Ala	Asn	Leu	Leu	Arg	Leu	Phe	Gln	Ile		
145					150					155					160		
Pro	Gln	Ile	Ser	Tyr	Ala	Ser	Thr	Ser	Ala	Lys	Leu	Ser	Asp	Lys	Ser		
				165					170					175			
Arg	Tyr	Asp	Tyr	Phe	Ala	Arg	Thr	Val	Pro	Pro	Asp	Phe	Phe	Gln	Ala		
		180						185					190				
Lys	Ala	Met	Ala	Glu	Ile	Leu	Arg	Phe	Phe	Asn	Trp	Thr	Tyr	Val	Ser		
		195					200					205					
Thr	Val	Ala	Ser	Glu	Gly	Asp	Tyr	Gly	Glu	Thr	Gly	Ile	Glu	Ala	Phe		
		210				215					220						
Glu	Leu	Glu	Ala	Arg	Ala	Arg	Asn	Ile	Cys	Val	Ala	Thr	Ser	Glu	Lys		
225					230				235						240		
Val	Gly	Arg	Ala	Met	Ser	Arg	Ala	Ala	Phe	Glu	Gly	Val	Val	Arg	Ala		
				245					250					255			
Leu	Leu	Gln	Lys	Pro	Ser	Ala	Arg	Val	Ala	Val	Leu	Phe	Thr	Arg	Ser		
			260					265					270				
Glu	Asp	Ala	Arg	Glu	Leu	Leu	Ala	Ala	Thr	Gln	Arg	Leu	Asn	Ala	Ser		
		275					280					285					
Phe	Thr	Trp	Val	Ala	Ser	Asp	Gly	Trp	Gly	Ala	Leu	Glu	Ser	Val	Val		
		290				295					300						
Ala	Gly	Ser	Glu	Arg	Ala	Ala	Glu	Gly	Ala	Ile	Thr	Ile	Glu	Leu	Ala		
305					310				315						320		
Ser	Tyr	Pro	Ile	Ser	Asp	Phe	Ala	Ser	Tyr	Phe	Gln	Ser	Leu	Asp	Pro		
				325					330					335			
Trp	Asn	Asn	Ser	Arg	Asn	Pro	Trp	Phe	Arg	Glu	Phe	Trp	Glu	Glu	Arg		
			340					345					350				
Phe	His	Cys	Ser	Phe	Arg	Gln	Arg	Asp	Cys	Ala	Ala	His	Ser	Leu	Arg		
		355					360					365					
Ala	Val	Pro	Phe	Glu	Gln	Glu	Ser	Lys	Ile	Met	Phe	Val	Val	Asn	Ala		
		370				375					380						
Val	Tyr	Ala	Met	Ala	His	Ala	Leu	His	Asn	Met	His	Arg	Ala	Leu	Cys		
385					390				395						400		
Pro	Asn	Thr	Thr	His	Leu	Cys	Asp	Ala	Met	Arg	Pro	Val	Asn	Gly	Arg		
				405					410					415			
Arg	Leu	Tyr	Lys	Asp	Phe	Val	Leu	Asn	Val	Lys	Phe	Asp	Ala	Pro	Phe		
			420					425					430				
Arg	Pro	Ala	Asp	Thr	Asp	Asp	Glu	Val	Arg	Phe	Asp	Arg	Phe	Gly	Asp		
		435					440					445					
Gly	Ile	Gly	Arg	Tyr	Asn	Ile	Phe	Thr	Tyr	Leu	Arg	Ala	Gly	Ser	Gly		
		450				455					460						
Arg	Tyr	Arg	Tyr	Gln	Lys	Val	Gly	Tyr	Trp	Ala	Glu	Gly	Leu	Thr	Leu		
465					470				475						480		
Asp	Thr	Ser	Phe	Ile	Pro	Trp	Ala	Ser	Pro	Ser	Ala	Gly	Pro	Leu	Pro		
				485					490					495			
Ala	Ser	Arg	Cys	Ser	Glu	Pro	Cys	Leu	Gln	Asn	Glu	Val	Lys	Ser	Val		
			500					505					510				
Gln	Pro	Gly	Glu	Val	Cys	Cys	Trp	Leu	Cys	Ile	Pro	Cys	Gln	Pro	Tyr		
		515					520					525					
Glu	Tyr	Arg	Leu	Asp	Glu	Phe	Thr	Cys	Ala	Asp	Cys	Gly	Leu	Gly	Tyr		

530	535	540
Trp Pro Asn Ala Ser Leu Thr Gly Cys Phe Glu Leu Pro Gln Glu Tyr		
545	550	555
Ile Arg Trp Gly Asp Ala Trp Ala Val Gly Pro Val Thr Ile Ala Cys		
	565	570
Leu Gly Ala Leu Ala Thr Leu Phe Val Leu Gly Val Phe Val Arg His		
	580	585
Asn Ala Thr Pro Val Val Lys Ala Ser Gly Arg Glu Leu Cys Tyr Ile		
	595	600
Leu Leu Gly Gly Val Phe Leu Cys Tyr Cys Met Thr Phe Val Phe Ile		
	610	615
Ala Lys Pro Ser Thr Ala Val Cys Thr Leu Arg Arg Leu Gly Leu Gly		
625	630	635
Thr Ala Phe Ser Val Cys Tyr Ser Ala Leu Leu Thr Lys Thr Asn Arg		
	645	650
Ile Ala Arg Ile Phe Gly Gly Ala Arg Glu Gly Ala Gln Arg Pro Arg		
	660	665
Phe Ile Ser Pro Ala Ser Gln Val Ala Ile Cys Leu Ala Leu Ile Leu		
	675	680
Gly Gln Leu Leu Ile Val Ala Ala Trp Leu Val Val Glu Ala Pro Gly		
	690	695
Thr Gly Lys Glu Thr Ala Pro Glu Arg Arg Glu Val Val Thr Leu Arg		
705	710	715
Cys Asn His Arg Asp Ala Ser Met Leu Gly Ser Leu Ala Tyr Asn Val		
	725	730
Leu Leu Ile Ala Leu Cys Thr Leu Tyr Ala Phe Lys Thr Arg Lys Cys		
	740	745
Pro Glu Asn Phe Asn Glu Ala Lys Phe Ile Gly Phe Thr Met Tyr Thr		
	755	760
Thr Cys Ile Ile Trp Leu Ala Phe Leu Pro Ile Phe Tyr Val Thr Ser		
	770	775
Ser Asp Tyr Arg Val Gln Thr Thr Thr Met Cys Val Ser Val Ser Leu		
785	790	795
Ser Gly Ser Val Val Leu Gly Cys Leu Phe Ala Pro Lys Leu His Ile		
	805	810
Ile Leu Phe Gln Pro Gln Lys Asn Val Val Ser His Arg Ala Pro Thr		
	820	825
Ser Arg Phe Gly Ser Ala Ala Pro Arg Ala Ser Ala Asn Leu Gly Gln		
	835	840
Gly Ser Gly Ser Gln Phe Val Pro Thr Val Cys Asn Gly Arg Glu Val		
	850	855
Val Asp Ser Thr Thr Ser Ser Leu Thr		860
865	870	

<210> 21  
 <211> 873  
 <212> PRT  
 <213> Rat

<400> 21  
 Met Glu Ser Leu Leu Gly Phe Leu Ala Leu Leu Leu Leu Trp Gly Ala  
 1 5 10 15  
 Val Ala Glu Gly Pro Ala Lys Lys Val Leu Thr Leu Glu Gly Asp Leu  
 20 25 30

Val	Leu	Gly	Gly	Leu	Phe	Pro	Val	His	Gln	Lys	Gly	Gly	Pro	Ala	Glu
		35					40					45			
Glu	Cys	Gly	Pro	Val	Asn	Glu	His	Arg	Gly	Ile	Gln	Arg	Leu	Glu	Ala
	50				55						60				
Met	Leu	Phe	Ala	Leu	Asp	Arg	Ile	Asn	Arg	Asp	Pro	His	Leu	Leu	Pro
65					70					75					80
Gly	Val	Arg	Leu	Gly	Ala	His	Ile	Leu	Asp	Ser	Cys	Ser	Lys	Asp	Thr
				85					90					95	
His	Ala	Leu	Glu	Gln	Ala	Leu	Asp	Phe	Val	Arg	Ala	Ser	Leu	Ser	Arg
			100					105					110		
Gly	Ala	Asp	Gly	Ser	Arg	His	Ile	Cys	Pro	Asp	Gly	Ser	Tyr	Ala	Thr
		115					120					125			
His	Ser	Asp	Ala	Pro	Thr	Ala	Val	Thr	Gly	Val	Ile	Gly	Gly	Ser	Tyr
	130					135					140				
Ser	Asp	Val	Ser	Ile	Gln	Val	Ala	Asn	Leu	Leu	Arg	Leu	Phe	Gln	Ile
145					150					155					160
Pro	Gln	Ile	Ser	Tyr	Ala	Ser	Thr	Ser	Ala	Lys	Leu	Ser	Asp	Lys	Ser
				165					170					175	
Arg	Tyr	Asp	Tyr	Phe	Ala	Arg	Thr	Val	Pro	Pro	Asp	Phe	Phe	Gln	Ala
			180					185					190		
Lys	Ala	Met	Ala	Glu	Ile	Leu	Arg	Phe	Phe	Asn	Trp	Thr	Tyr	Val	Ser
	195						200					205			
Thr	Val	Ala	Ser	Glu	Gly	Asp	Tyr	Gly	Glu	Thr	Gly	Ile	Glu	Ala	Phe
	210					215					220				
Glu	Leu	Glu	Ala	Arg	Ala	Arg	Asn	Ile	Cys	Val	Ala	Thr	Ser	Glu	Lys
225					230					235					240
Val	Gly	Arg	Ala	Met	Ser	Arg	Ala	Ala	Phe	Glu	Gly	Val	Val	Arg	Ala
				245					250					255	
Leu	Leu	Gln	Lys	Pro	Ser	Ala	Arg	Val	Ala	Val	Leu	Phe	Thr	Arg	Ser
			260					265					270		
Glu	Asp	Ala	Arg	Glu	Leu	Leu	Ala	Ala	Thr	Gln	Arg	Leu	Asn	Ala	Ser
	275						280					285			
Phe	Thr	Trp	Val	Ala	Ser	Asp	Gly	Trp	Gly	Ala	Leu	Glu	Ser	Val	Val
	290					295					300				
Ala	Gly	Ser	Glu	Arg	Ala	Ala	Glu	Gly	Ala	Ile	Thr	Ile	Glu	Leu	Ala
305					310					315					320
Ser	Tyr	Pro	Ile	Ser	Asp	Phe	Ala	Ser	Tyr	Phe	Gln	Ser	Leu	Asp	Pro
				325					330					335	
Trp	Asn	Asn	Ser	Arg	Asn	Pro	Trp	Phe	Arg	Glu	Phe	Trp	Glu	Glu	Arg
			340					345					350		
Phe	His	Cys	Ser	Phe	Arg	Gln	Arg	Asp	Cys	Ala	Ala	His	Ser	Leu	Arg
	355							360				365			
Ala	Val	Pro	Phe	Glu	Gln	Glu	Ser	Lys	Ile	Met	Phe	Val	Val	Asn	Ala
	370					375					380				
Val	Tyr	Ala	Met	Ala	His	Ala	Leu	His	Asn	Met	His	Arg	Ala	Leu	Cys
385					390					395					400
Pro	Asn	Thr	Thr	His	Leu	Cys	Asp	Ala	Met	Arg	Pro	Val	Asn	Gly	Arg
				405					410					415	
Arg	Leu	Tyr	Lys	Asp	Phe	Val	Leu	Asn	Val	Lys	Phe	Asp	Ala	Pro	Phe
			420					425					430		
Arg	Pro	Ala	Asp	Thr	Asp	Asp	Glu	Val	Arg	Phe	Asp	Arg	Phe	Gly	Asp
		435					440					445			
Gly	Ile	Gly	Arg	Tyr	Asn	Ile	Phe	Thr	Tyr	Leu	Arg	Ala	Gly	Ser	Gly
	450					455					460				
Arg	Tyr	Arg	Tyr	Gln	Lys	Val	Gly	Tyr	Trp	Ala	Glu	Gly	Leu	Thr	Leu

465					470					475				480
Asp	Thr	Ser	Phe	Ile	Pro	Trp	Ala	Ser	Pro	Ser	Ala	Gly	Pro	Leu
				485					490					495
Ala	Ser	Arg	Cys	Ser	Glu	Pro	Cys	Leu	Gln	Asn	Glu	Val	Lys	Ser
			500					505					510	
Gln	Pro	Gly	Glu	Val	Cys	Cys	Trp	Leu	Cys	Ile	Pro	Cys	Gln	Pro
		515					520					525		Tyr
Glu	Tyr	Arg	Leu	Asp	Glu	Phe	Thr	Cys	Ala	Asp	Cys	Gly	Leu	Gly
	530					535				540				
Trp	Pro	Asn	Ala	Ser	Leu	Thr	Gly	Cys	Phe	Glu	Leu	Pro	Gln	Glu
545					550				555					560
Ile	Arg	Trp	Gly	Asp	Ala	Trp	Ala	Val	Gly	Pro	Val	Thr	Ile	Ala
				565					570					575
Leu	Gly	Ala	Leu	Ala	Thr	Leu	Phe	Val	Leu	Gly	Val	Phe	Val	Arg
			580				585					590		His
Asn	Ala	Thr	Pro	Val	Val	Lys	Ala	Ser	Gly	Arg	Glu	Leu	Cys	Tyr
	595						600					605		Ile
Leu	Leu	Gly	Gly	Val	Phe	Leu	Cys	Tyr	Cys	Met	Thr	Phe	Val	Phe
	610					615					620			Ile
Ala	Lys	Pro	Ser	Thr	Ala	Val	Cys	Thr	Leu	Arg	Arg	Leu	Gly	Leu
625					630				635					640
Thr	Ala	Phe	Ser	Val	Cys	Tyr	Ser	Ala	Leu	Leu	Thr	Lys	Thr	Asn
				645					650					655
Ile	Ala	Arg	Ile	Phe	Gly	Gly	Ala	Arg	Glu	Gly	Ala	Gln	Arg	Pro
			660				665					670		Arg
Phe	Ile	Ser	Pro	Ala	Ser	Gln	Val	Ala	Ile	Cys	Leu	Ala	Leu	Ile
	675					680						685		Leu
Val	Gln	Leu	Leu	Ile	Val	Ala	Ala	Trp	Leu	Val	Val	Glu	Ala	Pro
	690				695					700				Gly
Thr	Gly	Lys	Glu	Thr	Ala	Pro	Glu	Arg	Arg	Glu	Val	Val	Thr	Leu
705					710					715				720
Cys	Asn	His	Arg	Asp	Ala	Ser	Met	Leu	Gly	Ser	Leu	Ala	Tyr	Asn
				725					730					735
Leu	Leu	Ile	Ala	Leu	Cys	Thr	Leu	Tyr	Ala	Phe	Lys	Thr	Arg	Lys
			740				745					750		Cys
Pro	Glu	Asn	Phe	Asn	Glu	Ala	Lys	Phe	Ile	Gly	Phe	Thr	Met	Tyr
	755					760						765		Thr
Thr	Cys	Ile	Ile	Trp	Leu	Ala	Phe	Leu	Pro	Ile	Phe	Tyr	Val	Thr
	770				775						780			Ser
Ser	Asp	Tyr	Arg	Val	Gln	Thr	Thr	Thr	Met	Cys	Val	Ser	Val	Ser
785					790				795					800
Ser	Gly	Ser	Val	Val	Leu	Gly	Cys	Leu	Phe	Ala	Pro	Lys	Leu	His
			805					810					815	Ile
Ile	Leu	Phe	Gln	Pro	Gln	Lys	Asn	Val	Val	Ser	His	Arg	Ala	Pro
			820				825					830		Thr
Ser	Arg	Phe	Gly	Ser	Ala	Ala	Pro	Arg	Ala	Ser	Ala	Asn	Leu	Gly
	835						840					845		Gln
Gly	Ser	Gly	Ser	Gln	Phe	Val	Pro	Thr	Val	Cys	Asn	Gly	Arg	Glu
	850				855						860			Val
Val	Asp	Ser	Thr	Thr	Ser	Ser	Leu	Thr						
865					870									

<210> 22  
<211> 873

&lt;212&gt; PRT

&lt;213&gt; Rat

&lt;400&gt; 22

Met	Glu	Ser	Leu	Leu	Gly	Phe	Leu	Ala	Leu	Leu	Leu	Leu	Trp	Gly	Ala	
1				5					10					15		
Val	Ala	Glu	Gly	Pro	Ala	Lys	Lys	Val	Leu	Thr	Leu	Glu	Gly	Asp	Leu	
			20					25					30			
Val	Leu	Gly	Gly	Leu	Phe	Pro	Val	His	Gln	Lys	Gly	Gly	Pro	Ala	Glu	
		35					40					45				
Glu	Cys	Gly	Pro	Val	Asn	Glu	His	Arg	Gly	Ile	Gln	Arg	Leu	Glu	Ala	
	50				55						60					
Met	Leu	Phe	Ala	Leu	Asp	Arg	Ile	Asn	Arg	Asp	Pro	His	Leu	Leu	Pro	
65					70					75					80	
Gly	Val	Arg	Leu	Gly	Ala	His	Ile	Leu	Asp	Ser	Cys	Ser	Lys	Asp	Thr	
			85						90					95		
His	Ala	Leu	Glu	Gln	Ala	Leu	Asp	Phe	Val	Arg	Ala	Ser	Leu	Ser	Arg	
			100					105					110			
Gly	Ala	Asp	Gly	Ser	Arg	His	Ile	Cys	Pro	Asp	Gly	Ser	Tyr	Ala	Thr	
		115					120					125				
His	Ser	Asp	Ala	Pro	Thr	Ala	Val	Thr	Gly	Val	Ile	Gly	Gly	Ser	Tyr	
	130					135					140					
Ser	Asp	Val	Ser	Ile	Gln	Val	Ala	Asn	Leu	Leu	Arg	Leu	Phe	Gln	Ile	
145					150					155					160	
Pro	Gln	Ile	Ser	Tyr	Ala	Ser	Thr	Ser	Ala	Lys	Leu	Ser	Asp	Lys	Ser	
			165						170					175		
Arg	Tyr	Asp	Tyr	Phe	Ala	Arg	Thr	Val	Pro	Pro	Asp	Phe	Phe	Gln	Ala	
			180					185						190		
Lys	Ala	Met	Ala	Glu	Ile	Leu	Arg	Phe	Phe	Asn	Trp	Thr	Tyr	Val	Ser	
	195						200					205				
Thr	Val	Ala	Ser	Glu	Gly	Asp	Tyr	Gly	Glu	Thr	Gly	Ile	Glu	Ala	Phe	
	210					215					220					
Glu	Leu	Glu	Ala	Arg	Ala	Arg	Asn	Ile	Cys	Val	Ala	Thr	Ser	Glu	Lys	
225					230					235					240	
Val	Gly	Arg	Ala	Met	Ser	Arg	Ala	Ala	Phe	Glu	Gly	Val	Val	Arg	Ala	
			245						250					255		
Leu	Leu	Gln	Lys	Pro	Ser	Ala	Arg	Val	Ala	Val	Leu	Phe	Thr	Arg	Ser	
			260					265						270		
Glu	Asp	Ala	Arg	Glu	Leu	Leu	Ala	Ala	Thr	Gln	Arg	Leu	Asn	Ala	Ser	
		275					280					285				
Phe	Thr	Trp	Val	Ala	Ser	Asp	Gly	Trp	Gly	Ala	Leu	Glu	Ser	Val	Val	
	290					295					300					
Ala	Gly	Ser	Glu	Arg	Ala	Ala	Glu	Gly	Ala	Ile	Thr	Ile	Glu	Leu	Ala	
305					310					315					320	
Ser	Tyr	Pro	Ile	Ser	Asp	Phe	Ala	Ser	Tyr	Phe	Gln	Ser	Leu	Asp	Pro	
			325						330					335		
Trp	Asn	Asn	Ser	Arg	Asn	Pro	Trp	Phe	Arg	Glu	Phe	Trp	Glu	Glu	Arg	
			340					345					350			
Phe	His	Cys	Ser	Phe	Arg	Gln	Arg	Asp	Cys	Ala	Ala	His	Ser	Leu	Arg	
		355					360					365				
Ala	Val	Pro	Phe	Glu	Gln	Glu	Ser	Lys	Ile	Met	Phe	Val	Val	Asn	Ala	
	370					375					380					
Val	Tyr	Ala	Met	Ala	His	Ala	Leu	His	Asn	Met	His	Arg	Ala	Leu	Cys	
385					390					395					400	

Pro	Asn	Thr	Thr	His	Leu	Cys	Asp	Ala	Met	Arg	Pro	Val	Asn	Gly	Arg	
				405					410					415		
Arg	Leu	Tyr	Lys	Asp	Phe	Val	Leu	Asn	Val	Lys	Phe	Asp	Ala	Pro	Phe	
			420					425					430			
Arg	Pro	Ala	Asp	Thr	Asp	Asp	Glu	Val	Arg	Phe	Asp	Arg	Phe	Gly	Asp	
		435					440					445				
Gly	Ile	Gly	Arg	Tyr	Asn	Ile	Phe	Thr	Tyr	Leu	Arg	Ala	Gly	Ser	Gly	
	450					455					460					
Arg	Tyr	Arg	Tyr	Gln	Lys	Val	Gly	Tyr	Trp	Ala	Glu	Gly	Leu	Thr	Leu	
465					470					475					480	
Asp	Thr	Ser	Phe	Ile	Pro	Trp	Ala	Ser	Pro	Ser	Ala	Gly	Pro	Leu	Pro	
				485					490					495		
Ala	Ser	Arg	Cys	Ser	Glu	Pro	Cys	Leu	Gln	Asn	Glu	Val	Lys	Ser	Val	
			500					505					510			
Gln	Pro	Gly	Glu	Val	Cys	Cys	Trp	Leu	Cys	Ile	Pro	Cys	Gln	Pro	Tyr	
		515					520					525				
Glu	Tyr	Arg	Leu	Asp	Glu	Phe	Thr	Cys	Ala	Asp	Cys	Gly	Leu	Gly	Tyr	
	530					535				540						
Trp	Pro	Asn	Ala	Ser	Leu	Thr	Gly	Cys	Phe	Glu	Leu	Pro	Gln	Glu	Tyr	
545					550					555					560	
Ile	Arg	Trp	Gly	Asp	Ala	Trp	Ala	Val	Gly	Pro	Val	Thr	Ile	Ala	Cys	
				565					570					575		
Leu	Gly	Ala	Leu	Ala	Thr	Leu	Phe	Val	Leu	Gly	Val	Phe	Val	Arg	His	
			580					585					590			
Asn	Ala	Thr	Pro	Val	Val	Lys	Ala	Ser	Gly	Arg	Glu	Leu	Cys	Tyr	Ile	
		595					600					605				
Leu	Leu	Gly	Gly	Val	Phe	Leu	Cys	Tyr	Cys	Met	Thr	Phe	Val	Phe	Ile	
	610					615					620					
Ala	Lys	Pro	Ser	Thr	Ala	Val	Cys	Thr	Leu	Arg	Arg	Leu	Gly	Leu	Gly	
625					630					635					640	
Thr	Ala	Phe	Ser	Val	Cys	Tyr	Ser	Ala	Leu	Leu	Thr	Lys	Thr	Asn	Arg	
				645					650					655		
Ile	Ala	Arg	Ile	Phe	Gly	Gly	Ala	Arg	Glu	Gly	Ala	Gln	Arg	Pro	Arg	
			660					665					670			
Phe	Ile	Ser	Pro	Ala	Ser	Gln	Val	Ala	Ile	Cys	Leu	Ala	Leu	Ile	Leu	
		675					680					685				
Gly	Gln	Leu	Leu	Ile	Val	Ala	Ala	Trp	Leu	Val	Val	Glu	Ala	Pro	Gly	
	690					695					700					
Thr	Gly	Lys	Glu	Thr	Ala	Pro	Glu	Arg	Arg	Glu	Val	Val	Thr	Leu	Arg	
705					710					715					720	
Cys	Asn	His	Arg	Asp	Ala	Ser	Met	Leu	Gly	Ser	Leu	Ala	Tyr	Asp	Val	
				725					730					735		
Leu	Leu	Ile	Ala	Leu	Cys	Thr	Leu	Tyr	Ala	Phe	Lys	Thr	Arg	Lys	Cys	
			740					745					750			
Pro	Glu	Asn	Phe	Asn	Glu	Ala	Lys	Phe	Ile	Gly	Phe	Thr	Met	Tyr	Thr	
		755					760					765				
Thr	Cys	Ile	Ile	Trp	Leu	Ala	Phe	Leu	Pro	Ile	Phe	Tyr	Val	Thr	Ser	
	770					775					780					
Ser	Asp	Tyr	Arg	Val	Gln	Thr	Thr	Thr	Met	Cys	Val	Ser	Val	Ser	Leu	
785					790					795					800	
Ser	Gly	Ser	Val	Val	Leu	Gly	Cys	Leu	Phe	Ala	Pro	Lys	Leu	His	Ile	
				805					810					815		
Ile	Leu	Phe	Gln	Pro	Gln	Lys	Asn	Val	Val	Ser	His	Arg	Ala	Pro	Thr	
			820					825					830			

Ser Arg Phe Gly Ser Ala Ala Pro Arg Ala Ser Ala Asn Leu Gly Gln  
           835                                  840                  845  
 Gly Ser Gly Ser Gln Phe Val Pro Thr Val Cys Asn Gly Arg Glu Val  
       850                                  855                  860  
 Val Asp Ser Thr Thr Ser Ser Leu Thr  
 865                                  870

<210> 23  
 <211> 873  
 <212> PRT  
 <213> Rat

<400> 23

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 Val Ala Glu Gly Pro Ala Lys Lys Val Leu Thr Leu Glu Gly Asp Leu  
           20                                  25                  30  
 Val Leu Gly Gly Leu Phe Pro Val His Gln Lys Gly Gly Pro Ala Glu  
       35                                  40                  45  
 Glu Cys Gly Pro Val Asn Glu His Arg Gly Ile Gln Arg Leu Glu Ala  
       50                                  55                  60  
 Met Leu Phe Ala Leu Asp Arg Ile Asn Arg Asp Pro His Leu Leu Pro  
 65                                  70                  75                  80  
 Gly Val Arg Leu Gly Ala His Ile Leu Asp Ser Cys Ser Lys Asp Thr  
           85                                  90                  95  
 His Ala Leu Glu Gln Ala Leu Asp Phe Val Arg Ala Ser Leu Ser Arg  
           100                                  105                  110  
 Gly Ala Asp Gly Ser Arg His Ile Cys Pro Asp Gly Ser Tyr Ala Thr  
       115                                  120                  125  
 His Ser Asp Ala Pro Thr Ala Val Thr Gly Val Ile Gly Gly Ser Tyr  
       130                                  135                  140  
 Ser Asp Val Ser Ile Gln Val Ala Asn Leu Leu Arg Leu Phe Gln Ile  
 145                                  150                  155                  160  
 Pro Gln Ile Ser Tyr Ala Ser Thr Ser Ala Lys Leu Ser Asp Lys Ser  
           165                                  170                  175  
 Arg Tyr Asp Tyr Phe Ala Arg Thr Val Pro Pro Asp Phe Phe Gln Ala  
       180                                  185                  190  
 Lys Ala Met Ala Glu Ile Leu Arg Phe Phe Asn Trp Thr Tyr Val Ser  
       195                                  200                  205  
 Thr Val Ala Ser Glu Gly Asp Tyr Gly Glu Thr Gly Ile Glu Ala Phe  
       210                                  215                  220  
 Glu Leu Glu Ala Arg Ala Arg Asn Ile Cys Val Ala Thr Ser Glu Lys  
 225                                  230                  235                  240  
 Val Gly Arg Ala Met Ser Arg Ala Ala Phe Glu Gly Val Val Arg Ala  
           245                                  250                  255  
 Leu Leu Gln Lys Pro Ser Ala Arg Val Ala Val Leu Phe Thr Arg Ser  
       260                                  265                  270  
 Glu Asp Ala Arg Glu Leu Leu Ala Ala Thr Gln Arg Leu Asn Ala Ser  
       275                                  280                  285  
 Phe Thr Trp Val Ala Ser Asp Gly Trp Gly Ala Leu Glu Ser Val Val  
       290                                  295                  300  
 Ala Gly Ser Glu Arg Ala Ala Glu Gly Ala Ile Thr Ile Glu Leu Ala  
 305                                  310                  315                  320  
 Ser Tyr Pro Ile Ser Asp Phe Ala Ser Tyr Phe Gln Ser Leu Asp Pro





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Thr Cys Ile Ile Trp Leu Ala Phe Leu Pro Ile Phe Tyr Val Thr Ser
 770          775          780
Ser Asp Tyr Arg Val Gln Thr Thr Thr Met Cys Val Ser Val Ser Leu
785          790          795          800
Ser Gly Ser Val Val Leu Gly Cys Leu Phe Ala Pro Lys Leu His Ile
          805          810          815
Ile Leu Phe Gln Pro Gln Lys Asn Val Val Ser His Arg Ala Pro Thr
          820          825          830
Ser Arg Phe Gly Ser Ala Ala Pro Arg Ala Ser Ala Asn Leu Gly Gln
          835          840          845
Gly Ser Gly Ser Gln Phe Val Pro Thr Val Cys Asn Gly Arg Glu Val
          850          855          860
Val Asp Ser Thr Thr Ser Ser Leu Thr
865          870

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<210> 24  
 <211> 873  
 <212> PRT  
 <213> Rat

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          20          25          30
Val Leu Gly Gly Leu Phe Pro Val His Gln Lys Gly Gly Pro Ala Glu
          35          40          45
Glu Cys Gly Pro Val Asn Glu His Arg Gly Ile Gln Arg Leu Glu Ala
          50          55          60
Met Leu Phe Ala Leu Asp Arg Ile Asn Arg Asp Pro His Leu Leu Pro
65          70          75          80
Gly Val Arg Leu Gly Ala His Ile Leu Asp Ser Cys Ser Lys Asp Thr
          85          90          95
His Ala Leu Glu Gln Ala Leu Asp Phe Val Arg Ala Ser Leu Ser Arg
          100          105          110
Gly Ala Asp Gly Ser Arg His Ile Cys Pro Asp Gly Ser Tyr Ala Thr
          115          120          125
His Ser Asp Ala Pro Thr Ala Val Thr Gly Val Ile Gly Gly Ser Tyr
          130          135          140
Ser Asp Val Ser Ile Gln Val Ala Asn Leu Leu Arg Leu Phe Gln Ile
145          150          155          160
Pro Gln Ile Ser Tyr Ala Ser Thr Ser Ala Lys Leu Ser Asp Lys Ser
          165          170          175
Arg Tyr Asp Tyr Phe Ala Arg Thr Val Pro Pro Asp Phe Phe Gln Ala
          180          185          190
Lys Ala Met Ala Glu Ile Leu Arg Phe Phe Asn Trp Thr Tyr Val Ser
          195          200          205
Thr Val Ala Ser Glu Gly Asp Tyr Gly Glu Thr Gly Ile Glu Ala Phe
          210          215          220
Glu Leu Glu Ala Arg Ala Arg Asn Ile Cys Val Ala Thr Ser Glu Lys
225          230          235          240
Val Gly Arg Ala Met Ser Arg Ala Ala Phe Glu Gly Val Val Arg Ala
          245          250          255
Leu Leu Gln Lys Pro Ser Ala Arg Val Ala Val Leu Phe Thr Arg Ser

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			260					265				270			
Glu	Asp	Ala	Arg	Glu	Leu	Leu	Ala	Ala	Thr	Gln	Arg	Leu	Asn	Ala	Ser
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Phe	Thr	Trp	Val	Ala	Ser	Asp	Gly	Trp	Gly	Ala	Leu	Glu	Ser	Val	Val
	290					295					300				
Ala	Gly	Ser	Glu	Arg	Ala	Ala	Glu	Gly	Ala	Ile	Thr	Ile	Glu	Leu	Ala
305					310					315					320
Ser	Tyr	Pro	Ile	Ser	Asp	Phe	Ala	Ser	Tyr	Phe	Gln	Ser	Leu	Asp	Pro
				325					330					335	
Trp	Asn	Asn	Ser	Arg	Asn	Pro	Trp	Phe	Arg	Glu	Phe	Trp	Glu	Glu	Arg
			340					345					350		
Phe	His	Cys	Ser	Phe	Arg	Gln	Arg	Asp	Cys	Ala	Ala	His	Ser	Leu	Arg
		355					360					365			
Ala	Val	Pro	Phe	Glu	Gln	Glu	Ser	Lys	Ile	Met	Phe	Val	Val	Asn	Ala
	370					375					380				
Val	Tyr	Ala	Met	Ala	His	Ala	Leu	His	Asn	Met	His	Arg	Ala	Leu	Cys
385					390				395						400
Pro	Asn	Thr	Thr	His	Leu	Cys	Asp	Ala	Met	Arg	Pro	Val	Asn	Gly	Arg
				405				410						415	
Arg	Leu	Tyr	Lys	Asp	Phe	Val	Leu	Asn	Val	Lys	Phe	Asp	Ala	Pro	Phe
			420					425					430		
Arg	Pro	Ala	Asp	Thr	Asp	Asp	Glu	Val	Arg	Phe	Asp	Arg	Phe	Gly	Asp
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Gly	Ile	Gly	Arg	Tyr	Asn	Ile	Phe	Thr	Tyr	Leu	Arg	Ala	Gly	Ser	Gly
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Arg	Tyr	Arg	Tyr	Gln	Lys	Val	Gly	Tyr	Trp	Ala	Glu	Gly	Leu	Thr	Leu
465					470				475						480
Asp	Thr	Ser	Phe	Ile	Pro	Trp	Ala	Ser	Pro	Ser	Ala	Gly	Pro	Leu	Pro
				485				490						495	
Ala	Ser	Arg	Cys	Ser	Glu	Pro	Cys	Leu	Gln	Asn	Glu	Val	Lys	Ser	Val
			500					505					510		
Gln	Pro	Gly	Glu	Val	Cys	Cys	Trp	Leu	Cys	Ile	Pro	Cys	Gln	Pro	Tyr
		515					520					525			
Glu	Tyr	Arg	Leu	Asp	Glu	Phe	Thr	Cys	Ala	Asp	Cys	Gly	Leu	Gly	Tyr
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Trp	Pro	Asn	Ala	Ser	Leu	Thr	Gly	Cys	Phe	Glu	Leu	Pro	Gln	Glu	Tyr
545					550				555						560
Ile	Arg	Trp	Gly	Asp	Ala	Trp	Ala	Val	Gly	Pro	Val	Thr	Ile	Ala	Cys
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Leu	Gly	Ala	Leu	Ala	Thr	Leu	Phe	Val	Leu	Gly	Val	Phe	Val	Arg	His
			580				585					590			
Asn	Ala	Thr	Pro	Val	Val	Lys	Ala	Ser	Gly	Arg	Glu	Leu	Cys	Tyr	Ile
		595					600					605			
Leu	Leu	Gly	Gly	Val	Phe	Leu	Cys	Tyr	Cys	Met	Thr	Phe	Val	Phe	Ile
	610				615						620				
Ala	Lys	Pro	Ser	Thr	Ala	Val	Cys	Thr	Leu	Arg	Arg	Leu	Gly	Leu	Gly
625					630				635						640
Thr	Ala	Phe	Ser	Val	Cys	Tyr	Ser	Ala	Leu	Leu	Thr	Lys	Thr	Asn	Arg
				645				650						655	
Ile	Ala	Arg	Ile	Phe	Gly	Gly	Ala	Arg	Glu	Gly	Ala	Gln	Arg	Pro	Arg
			660				665					670			
Phe	Ile	Ser	Pro	Ala	Ser	Gln	Val	Ala	Ile	Cys	Leu	Ala	Leu	Ile	Leu
		675					680					685			
Val	Gln	Leu	Leu	Ile	Val	Ala	Ala	Trp	Leu	Val	Val	Glu	Ala	Pro	Gly
	690					695					700				

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Thr Gly Lys Glu Thr Ala Pro Glu Arg Arg Glu Val Val Thr Leu Arg
705                      710                      715                      720
Cys Asn His Arg Asp Ala Ser Met Leu Gly Ser Leu Thr Tyr Asp Val
                      725                      730                      735
Leu Leu Ile Ala Leu Cys Thr Leu Tyr Ala Phe Lys Thr Arg Lys Cys
                      740                      745                      750
Pro Glu Asn Phe Asn Glu Ala Lys Phe Ile Gly Phe Thr Met Tyr Thr
                      755                      760                      765
Thr Cys Ile Ile Trp Leu Ala Phe Leu Pro Ile Phe Tyr Val Thr Ser
770                      775                      780
Ser Asp Tyr Arg Val Gln Thr Thr Thr Met Cys Val Ser Val Ser Leu
785                      790                      795                      800
Ser Gly Ser Val Val Leu Gly Cys Leu Phe Ala Pro Lys Leu His Ile
                      805                      810                      815
Ile Leu Phe Gln Pro Gln Lys Asn Val Val Ser His Arg Ala Pro Thr
                      820                      825                      830
Ser Arg Phe Gly Ser Ala Ala Pro Arg Ala Ser Ala Asn Leu Gly Gln
                      835                      840                      845
Gly Ser Gly Ser Gln Phe Val Pro Thr Val Cys Asn Gly Arg Glu Val
850                      855                      860
Val Asp Ser Thr Thr Ser Ser Leu Thr
865                      870

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<211> 2619
<212> DNA
<213> Rat

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caccagaagg gtggcccagc cgaggagtgt ggacctgtta atgagcaccg aggcatacag 180
cgcctagagg ctatgctttt tgcactggac cgcacaaacc gcgacccccca cctgctgcct 240
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 <211> 2619  
 <212> DNA  
 <213> Rat

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 <211> 2619  
 <212> DNA  
 <213> Rat

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&lt;210&gt; 33

&lt;211&gt; 880

&lt;212&gt; PRT

&lt;213&gt; Human

&lt;400&gt; 33

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Ile	Lys	Ile	Glu	Gly	Asp	Leu	Val	Leu	Gly	Gly	Leu	Phe	Pro	Ile	Asn		
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Glu	Lys	Gly	Thr	Gly	Thr	Glu	Glu	Cys	Gly	Arg	Ile	Asn	Glu	Asp	Arg		
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Gly	Ile	Gln	Arg	Leu	Glu	Ala	Met	Leu	Phe	Ala	Ile	Asp	Glu	Ile	Asn		
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Lys	Asp	Asp	Tyr	Leu	Leu	Pro	Gly	Val	Lys	Leu	Gly	Val	His	Ile	Leu		
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Val	Arg	Ala	Ser	Leu	Thr	Lys	Val	Asp	Glu	Ala	Glu	Tyr	Met	Cys	Pro		
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Asp	Gly	Ser	Tyr	Ala	Ile	Gln	Glu	Asn	Ile	Pro	Leu	Leu	Ile	Ala	Gly		
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Val	Ile	Gly	Gly	Ser	Tyr	Ser	Ser	Val	Ser	Ile	Gln	Val	Ala	Asn	Leu		
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Leu	Arg	Leu	Phe	Gln	Ile	Pro	Gln	Ile	Ser	Tyr	Ala	Ser	Thr	Ser	Ala		
			165					170					175				
Lys	Leu	Ser	Asp	Lys	Ser	Arg	Tyr	Asp	Tyr	Phe	Ala	Arg	Thr	Val	Pro		
			180					185					190				
Pro	Asp	Phe	Tyr	Gln	Ala	Lys	Ala	Met	Ala	Glu	Ile	Leu	Arg	Phe	Phe		
		195					200					205					
Asn	Trp	Thr	Tyr	Val	Ser	Thr	Val	Ala	Ser	Glu	Gly	Asp	Tyr	Gly	Glu		
	210					215					220						
Thr	Gly	Ile	Glu	Ala	Phe	Glu	Gln	Glu	Ala	Arg	Leu	Arg	Asn	Ile	Cys		
225					230				235						240		
Ile	Ala	Thr	Ala	Glu	Lys	Val	Gly	Arg	Ser	Asn	Ile	Arg	Lys	Ser	Tyr		
			245					250						255			
Asp	Ser	Val	Ile	Arg	Glu	Leu	Leu	Gln	Lys	Pro	Asn	Ala	Arg	Val	Val		
		260					265						270				
Val	Leu	Phe	Met	Arg	Ser	Asp	Asp	Ser	Arg	Glu	Leu	Ile	Ala	Ala	Ala		
	275					280					285						
Ser	Arg	Ala	Asn	Ala	Ser	Phe	Thr	Trp	Val	Ala	Ser	Asp	Gly	Trp	Gly		
	290				295					300							
Ala	Gln	Glu	Ser	Ile	Ile	Lys	Gly	Ser	Glu	His	Val	Ala	Tyr	Gly	Asp		
305					310				315						320		
Ile	Thr	Leu	Glu	Leu	Ala	Ser	Gln	Pro	Val	Arg	Gln	Phe	Gly	Arg	Tyr		
			325					330						335			
Phe	Gln	Ser	Leu	Asn	Pro	Tyr	Asn	Asn	His	Arg	Asn	Pro	Trp	Phe	Arg		
		340					345					350					
Asp	Phe	Trp	Glu	Gln	Lys	Phe	Gln	Cys	Ser	Leu	Gln	Asn	Lys	Arg	Asn		
	355					360						365					
His	Arg	Arg	Val	Cys	Glu	Lys	His	Leu	Ala	Ile	Asp	Ser	Ser	Asn	Tyr		
	370				375					380							
Glu	Gln	Glu	Ser	Lys	Ile	Met	Phe	Val	Val	Asn	Ala	Val	Tyr	Ala	Met		
385				390					395						400		
Ala	His	Ala	Leu	His	Lys	Met	Gln	Arg	Thr	Leu	Cys	Pro	Asn	Thr	Thr		
			405				410							415			
Lys	Leu	Cys	Asp	Ala	Met	Lys	Ile	Leu	Asp	Gly	Lys	Lys	Leu	Tyr	Lys		
		420					425					430					
Asp	Tyr	Leu	Leu	Lys	Ile	Asn	Phe	Thr	Ala	Pro	Phe	Asn	Pro	Asn	Lys		
		435				440						445					

Asp	Ala	Asp	Ser	Ile	Val	Lys	Phe	Asp	Thr	Phe	Gly	Asp	Gly	Met	Gly
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Arg	Tyr	Asn	Val	Phe	Asn	Phe	Gln	Asn	Val	Gly	Gly	Lys	Tyr	Ser	Tyr
465					470					475					480
Leu	Lys	Val	Gly	His	Trp	Ala	Glu	Thr	Leu	Ser	Leu	Asp	Val	Asn	Ser
				485					490					495	
Ile	His	Trp	Ser	Arg	Asn	Ser	Val	Pro	Thr	Ser	Gln	Cys	Ser	Asp	Pro
			500					505					510		
Cys	Ala	Pro	Asn	Glu	Met	Lys	Asn	Met	Gln	Pro	Gly	Asp	Val	Cys	Cys
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Thr	Cys	Met	Asp	Cys	Gly	Ser	Gly	Gln	Trp	Pro	Thr	Ala	Asp	Leu	Thr
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Gly	Cys	Tyr	Asp	Leu	Pro	Glu	Asp	Tyr	Ile	Arg	Trp	Glu	Asp	Ala	Trp
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Ala	Ile	Gly	Pro	Val	Thr	Ile	Ala	Cys	Leu	Gly	Phe	Met	Cys	Thr	Cys
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Met	Val	Val	Thr	Val	Phe	Ile	Lys	His	Asn	Asn	Thr	Pro	Leu	Val	Lys
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Ser	Tyr	Cys	Met	Thr	Phe	Phe	Phe	Ile	Ala	Lys	Pro	Ser	Pro	Val	Ile
625					630					635					640
Cys	Ala	Leu	Arg	Arg	Leu	Gly	Leu	Gly	Ser	Ser	Phe	Ala	Ile	Cys	Tyr
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Ser	Ala	Leu	Leu	Thr	Lys	Thr	Asn	Cys	Ile	Ala	Arg	Ile	Phe	Asp	Gly
			660					665					670		
Val	Lys	Asn	Gly	Ala	Gln	Arg	Pro	Lys	Phe	Ile	Ser	Pro	Ser	Ser	Gln
		675					680					685			
Val	Phe	Ile	Cys	Leu	Gly	Leu	Ile	Leu	Val	Gln	Ile	Val	Met	Val	Ser
690						695					700				
Val	Trp	Leu	Ile	Leu	Glu	Ala	Pro	Gly	Thr	Arg	Arg	Tyr	Thr	Leu	Ala
705					710					715					720
Glu	Lys	Arg	Glu	Thr	Val	Ile	Leu	Lys	Cys	Asn	Val	Lys	Asp	Ser	Ser
				725					730					735	
Met	Leu	Ile	Ser	Leu	Thr	Tyr	Asn	Val	Ile	Leu	Val	Ile	Leu	Cys	Thr
			740					745					750		
Val	Tyr	Ala	Phe	Lys	Thr	Arg	Lys	Cys	Pro	Glu	Asn	Phe	Asn	Glu	Ala
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Lys	Phe	Ile	Gly	Phe	Thr	Met	Tyr	Thr	Thr	Cys	Ile	Ile	Trp	Leu	Ala
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Phe	Leu	Pro	Ile	Phe	Tyr	Val	Thr	Ser	Ser	Asp	Tyr	Arg	Val	Gln	Thr
785					790					795					800
Thr	Thr	Met	Cys	Ile	Ser	Val	Ser	Leu	Ser	Gly	Phe	Val	Val	Leu	Gly
				805					810					815	
Cys	Leu	Phe	Ala	Pro	Lys	Val	His	Ile	Ile	Leu	Phe	Gln	Pro	Gln	Lys
			820					825					830		
Asn	Val	Val	Thr	His	Arg	Leu	His	Leu	Asn	Arg	Phe	Ser	Val	Ser	Gly
		835					840					845			
Thr	Gly	Thr	Thr	Tyr	Ser	Gln	Ser	Ser	Ala	Ser	Thr	Tyr	Val	Pro	Thr
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Val	Cys	Asn	Gly	Arg	Glu	Val	Leu	Asp	Ser	Thr	Thr	Ser	Ser	Leu	Thr
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<210> 34  
 <211> 880  
 <212> PRT  
 <213> Human

<400> 34

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 20          25          30
Ile Lys Ile Glu Gly Asp Leu Val Leu Gly Gly Leu Phe Pro Ile Asn
 35          40          45
Glu Lys Gly Thr Gly Thr Glu Glu Cys Gly Arg Ile Asn Glu Asp Arg
 50          55          60
Gly Ile Gln Arg Leu Glu Ala Met Leu Phe Ala Ile Asp Glu Ile Asn
 65          70          75          80
Lys Asp Asp Tyr Leu Leu Pro Gly Val Lys Leu Gly Val His Ile Leu
 85          90          95
Asp Thr Cys Ser Arg Asp Thr Tyr Ala Leu Glu Gln Ser Leu Glu Phe
100          105          110
Val Arg Ala Ser Leu Thr Lys Val Asp Glu Ala Glu Tyr Met Cys Pro
115          120          125
Asp Gly Ser Tyr Ala Ile Gln Glu Asn Ile Pro Leu Leu Ile Ala Gly
130          135          140
Val Ile Gly Gly Ser Tyr Ser Ser Val Ser Ile Gln Val Ala Asn Leu
145          150          155          160
Leu Arg Leu Phe Gln Ile Pro Gln Ile Ser Tyr Ala Ser Thr Ser Ala
165          170          175
Lys Leu Ser Asp Lys Ser Arg Tyr Asp Tyr Phe Ala Arg Thr Val Pro
180          185          190
Pro Asp Phe Tyr Gln Ala Lys Ala Met Ala Glu Ile Leu Arg Phe Phe
195          200          205
Asn Trp Thr Tyr Val Ser Thr Val Ala Ser Glu Gly Asp Tyr Gly Glu
210          215          220
Thr Gly Ile Glu Ala Phe Glu Gln Glu Ala Arg Leu Arg Asn Ile Cys
225          230          235          240
Ile Ala Thr Ala Glu Lys Val Gly Arg Ser Asn Ile Arg Lys Ser Tyr
245          250          255
Asp Ser Val Ile Arg Glu Leu Leu Gln Lys Pro Asn Ala Arg Val Val
260          265          270
Val Leu Phe Met Arg Ser Asp Asp Ser Arg Glu Leu Ile Ala Ala Ala
275          280          285
Ser Arg Ala Asn Ala Ser Phe Thr Trp Val Ala Ser Asp Gly Trp Gly
290          295          300
Ala Gln Glu Ser Ile Ile Lys Gly Ser Glu His Val Ala Tyr Gly Asp
305          310          315          320
Ile Thr Leu Glu Leu Ala Ser Gln Pro Val Arg Gln Phe Gly Arg Tyr
325          330          335
Phe Gln Ser Leu Asn Pro Tyr Asn Asn His Arg Asn Pro Trp Phe Arg
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Asp Phe Trp Glu Gln Lys Phe Gln Cys Ser Leu Gln Asn Lys Arg Asn

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Glu	Gln	Glu	Ser	Lys	Ile	Met	Phe	Val	Val	Asn	Ala	Val	Tyr	Ala	Met
385					390					395					400
Ala	His	Ala	Leu	His	Lys	Met	Gln	Arg	Thr	Leu	Cys	Pro	Asn	Thr	Thr
				405					410					415	
Lys	Leu	Cys	Asp	Ala	Met	Lys	Ile	Leu	Asp	Gly	Lys	Lys	Leu	Tyr	Lys
			420					425					430		
Asp	Tyr	Leu	Leu	Lys	Ile	Asn	Phe	Thr	Ala	Pro	Phe	Asn	Pro	Asn	Lys
	435					440						445			
Asp	Ala	Asp	Ser	Ile	Val	Lys	Phe	Asp	Thr	Phe	Gly	Asp	Gly	Met	Gly
	450					455					460				
Arg	Tyr	Asn	Val	Phe	Asn	Phe	Gln	Asn	Val	Gly	Gly	Lys	Tyr	Ser	Tyr
465					470					475					480
Leu	Lys	Val	Gly	His	Trp	Ala	Glu	Thr	Leu	Ser	Leu	Asp	Val	Asn	Ser
				485					490					495	
Ile	His	Trp	Ser	Arg	Asn	Ser	Val	Pro	Thr	Ser	Gln	Cys	Ser	Asp	Pro
			500					505					510		
Cys	Ala	Pro	Asn	Glu	Met	Lys	Asn	Met	Gln	Pro	Gly	Asp	Val	Cys	Cys
	515						520					525			
Trp	Ile	Cys	Ile	Pro	Cys	Glu	Pro	Tyr	Glu	Tyr	Leu	Ala	Asp	Glu	Phe
	530					535					540				
Thr	Cys	Met	Asp	Cys	Gly	Ser	Gly	Gln	Trp	Pro	Thr	Ala	Asp	Leu	Thr
545					550					555					560
Gly	Cys	Tyr	Asp	Leu	Pro	Glu	Asp	Tyr	Ile	Arg	Trp	Glu	Asp	Ala	Trp
			565						570					575	
Ala	Ile	Gly	Pro	Val	Thr	Ile	Ala	Cys	Leu	Gly	Phe	Met	Cys	Thr	Cys
			580					585					590		
Met	Val	Val	Thr	Val	Phe	Ile	Lys	His	Asn	Asn	Thr	Pro	Leu	Val	Lys
			595				600					605			
Ala	Ser	Gly	Arg	Glu	Leu	Cys	Tyr	Ile	Leu	Leu	Phe	Gly	Val	Gly	Leu
	610					615					620				
Ser	Tyr	Cys	Met	Thr	Phe	Phe	Phe	Ile	Ala	Lys	Pro	Ser	Pro	Val	Ile
625					630					635					640
Cys	Ala	Leu	Arg	Arg	Leu	Gly	Leu	Gly	Ser	Ser	Phe	Ala	Ile	Cys	Tyr
			645						650					655	
Ser	Ala	Leu	Leu	Thr	Lys	Thr	Asn	Cys	Ile	Ala	Arg	Ile	Phe	Asp	Gly
			660					665					670		
Val	Lys	Asn	Gly	Ala	Gln	Arg	Pro	Lys	Phe	Ile	Ser	Pro	Ser	Ser	Gln
		675					680					685			
Val	Phe	Ile	Cys	Leu	Gly	Leu	Ile	Leu	Gly	Gln	Ile	Val	Met	Val	Ser
	690					695					700				
Val	Trp	Leu	Ile	Leu	Glu	Ala	Pro	Gly	Thr	Arg	Arg	Tyr	Thr	Leu	Ala
705					710					715					720
Glu	Lys	Arg	Glu	Thr	Val	Ile	Leu	Lys	Cys	Asn	Val	Lys	Asp	Ser	Ser
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Met	Leu	Ile	Ser	Leu	Thr	Tyr	Asn	Val	Ile	Leu	Val	Ile	Leu	Cys	Thr
			740					745					750		
Val	Tyr	Ala	Phe	Lys	Thr	Arg	Lys	Cys	Pro	Glu	Asn	Phe	Asn	Glu	Ala
	755						760					765			
Lys	Phe	Ile	Gly	Phe	Thr	Met	Tyr	Thr	Thr	Cys	Ile	Ile	Trp	Leu	Ala
	770					775					780				

Phe	Leu	Pro	Ile	Phe	Tyr	Val	Thr	Ser	Ser	Asp	Tyr	Arg	Val	Gln	Thr
785					790					795					800
Thr	Thr	Met	Cys	Ile	Ser	Val	Ser	Leu	Ser	Gly	Phe	Val	Val	Leu	Gly
				805					810					815	
Cys	Leu	Phe	Ala	Pro	Lys	Val	His	Ile	Leu	Phe	Gln	Pro	Gln	Lys	
			820					825				830			
Asn	Val	Val	Thr	His	Arg	Leu	His	Leu	Asn	Arg	Phe	Ser	Val	Ser	Gly
		835					840					845			
Thr	Gly	Thr	Thr	Tyr	Ser	Gln	Ser	Ser	Ala	Ser	Thr	Tyr	Val	Pro	Thr
	850					855					860				
Val	Cys	Asn	Gly	Arg	Glu	Val	Leu	Asp	Ser	Thr	Thr	Ser	Ser	Leu	Thr
865					870					875					880

<210> 35  
 <211> 880  
 <212> PRT  
 <213> Human

<400> 35

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			20				25					30			
Ile	Lys	Ile	Glu	Gly	Asp	Leu	Val	Leu	Gly	Gly	Leu	Phe	Pro	Ile	Asn
		35				40					45				
Glu	Lys	Gly	Thr	Gly	Thr	Glu	Glu	Cys	Gly	Arg	Ile	Asn	Glu	Asp	Arg
	50					55					60				
Gly	Ile	Gln	Arg	Leu	Glu	Ala	Met	Leu	Phe	Ala	Ile	Asp	Glu	Ile	Asn
65					70				75						80
Lys	Asp	Asp	Tyr	Leu	Leu	Pro	Gly	Val	Lys	Leu	Gly	Val	His	Ile	Leu
				85					90					95	
Asp	Thr	Cys	Ser	Arg	Asp	Thr	Tyr	Ala	Leu	Glu	Gln	Ser	Leu	Glu	Phe
			100					105					110		
Val	Arg	Ala	Ser	Leu	Thr	Lys	Val	Asp	Glu	Ala	Glu	Tyr	Met	Cys	Pro
		115					120					125			
Asp	Gly	Ser	Tyr	Ala	Ile	Gln	Glu	Asn	Ile	Pro	Leu	Leu	Ile	Ala	Gly
	130					135					140				
Val	Ile	Gly	Gly	Ser	Tyr	Ser	Ser	Val	Ser	Ile	Gln	Val	Ala	Asn	Leu
145					150					155					160
Leu	Arg	Leu	Phe	Gln	Ile	Pro	Gln	Ile	Ser	Tyr	Ala	Ser	Thr	Ser	Ala
				165					170					175	
Lys	Leu	Ser	Asp	Lys	Ser	Arg	Tyr	Asp	Tyr	Phe	Ala	Arg	Thr	Val	Pro
			180					185					190		
Pro	Asp	Phe	Tyr	Gln	Ala	Lys	Ala	Met	Ala	Glu	Ile	Leu	Arg	Phe	Phe
		195					200					205			
Asn	Trp	Thr	Tyr	Val	Ser	Thr	Val	Ala	Ser	Glu	Gly	Asp	Tyr	Gly	Glu
	210					215						220			
Thr	Gly	Ile	Glu	Ala	Phe	Glu	Gln	Glu	Ala	Arg	Leu	Arg	Asn	Ile	Cys
225					230					235					240
Ile	Ala	Thr	Ala	Glu	Lys	Val	Gly	Arg	Ser	Asn	Ile	Arg	Lys	Ser	Tyr
				245					250					255	
Asp	Ser	Val	Ile	Arg	Glu	Leu	Leu	Gln	Lys	Pro	Asn	Ala	Arg	Val	Val
			260					265					270		
Val	Leu	Phe	Met	Arg	Ser	Asp	Asp	Ser	Arg	Glu	Leu	Ile	Ala	Ala	Ala





Glu	Lys	Arg	Glu	Thr	Val	Ile	Leu	Lys	Cys	Asn	Val	Lys	Asp	Ser	Ser	
				725					730					735		
Met	Leu	Ile	Ser	Leu	Thr	Tyr	Asn	Val	Ile	Leu	Val	Ile	Leu	Cys	Thr	
			740					745					750			
Val	Tyr	Ala	Phe	Lys	Thr	Arg	Lys	Cys	Pro	Glu	Asn	Phe	Asn	Glu	Ala	
		755					760					765				
Lys	Phe	Ile	Gly	Phe	Thr	Met	Tyr	Thr	Thr	Cys	Ile	Ile	Trp	Leu	Ala	
	770					775					780					
Phe	Leu	Pro	Ile	Phe	Tyr	Val	Thr	Ser	Ser	Asp	Tyr	Arg	Val	Gln	Thr	
785					790					795					800	
Thr	Thr	Met	Cys	Ile	Ser	Val	Ser	Leu	Ser	Gly	Phe	Val	Val	Leu	Gly	
				805					810						815	
Cys	Leu	Phe	Ala	Pro	Lys	Val	His	Ile	Ile	Leu	Phe	Gln	Pro	Gln	Lys	
			820					825					830			
Asn	Val	Val	Thr	His	Arg	Leu	His	Leu	Asn	Arg	Phe	Ser	Val	Ser	Gly	
		835					840					845				
Thr	Gly	Thr	Thr	Tyr	Ser	Gln	Ser	Ser	Ala	Ser	Thr	Tyr	Val	Pro	Thr	
	850					855					860					
Val	Cys	Asn	Gly	Arg	Glu	Val	Leu	Asp	Ser	Thr	Thr	Ser	Ser	Leu	Thr	
865					870					875					880	

&lt;210&gt; 36

&lt;211&gt; 880

&lt;212&gt; PRT

&lt;213&gt; Human

&lt;400&gt; 36

Met	Lys	Met	Leu	Thr	Arg	Leu	Gln	Val	Leu	Thr	Leu	Ala	Leu	Phe	Ser	
1				5					10					15		
Lys	Gly	Phe	Leu	Ser	Leu	Gly	Asp	His	Asn	Phe	Leu	Arg	Arg	Glu		
			20				25					30				
Ile	Lys	Ile	Glu	Gly	Asp	Leu	Val	Leu	Gly	Gly	Leu	Phe	Pro	Ile	Asn	
		35				40					45					
Glu	Lys	Gly	Thr	Gly	Thr	Glu	Glu	Cys	Gly	Arg	Ile	Asn	Glu	Asp	Arg	
	50					55				60						
Gly	Ile	Gln	Arg	Leu	Glu	Ala	Met	Leu	Phe	Ala	Ile	Asp	Glu	Ile	Asn	
65					70				75						80	
Lys	Asp	Asp	Tyr	Leu	Leu	Pro	Gly	Val	Lys	Leu	Gly	Val	His	Ile	Leu	
				85					90					95		
Asp	Thr	Cys	Ser	Arg	Asp	Thr	Tyr	Ala	Leu	Glu	Gln	Ser	Leu	Glu	Phe	
			100					105					110			
Val	Arg	Ala	Ser	Leu	Thr	Lys	Val	Asp	Glu	Ala	Glu	Tyr	Met	Cys	Pro	
		115					120					125				
Asp	Gly	Ser	Tyr	Ala	Ile	Gln	Glu	Asn	Ile	Pro	Leu	Leu	Ile	Ala	Gly	
	130					135					140					
Val	Ile	Gly	Gly	Ser	Tyr	Ser	Ser	Val	Ser	Ile	Gln	Val	Ala	Asn	Leu	
145					150					155					160	
Leu	Arg	Leu	Phe	Gln	Ile	Pro	Gln	Ile	Ser	Tyr	Ala	Ser	Thr	Ser	Ala	
				165					170					175		
Lys	Leu	Ser	Asp	Lys	Ser	Arg	Tyr	Asp	Tyr	Phe	Ala	Arg	Thr	Val	Pro	
			180					185					190			
Pro	Asp	Phe	Tyr	Gln	Ala	Lys	Ala	Met	Ala	Glu	Ile	Leu	Arg	Phe	Phe	
		195					200					205				
Asn	Trp	Thr	Tyr	Val	Ser	Thr	Val	Ala	Ser	Glu	Gly	Asp	Tyr	Gly	Glu	

210	215	220
Thr Gly Ile Glu Ala Phe	Glu Gln Glu Ala Arg	Leu Arg Asn Ile Cys
225	230	235
Ile Ala Thr Ala Glu Lys	Val Gly Arg Ser Asn	Ile Arg Lys Ser Tyr
245	250	255
Asp Ser Val Ile Arg Glu	Leu Leu Gln Lys Pro	Asn Ala Arg Val Val
260	265	270
Val Leu Phe Met Arg Ser	Asp Asp Ser Arg Glu	Leu Ile Ala Ala Ala
275	280	285
Ser Arg Ala Asn Ala Ser	Phe Thr Trp Val Ala	Ser Asp Gly Trp Gly
290	295	300
Ala Gln Glu Ser Ile Ile	Lys Gly Ser Glu His	Val Ala Tyr Gly Asp
305	310	315
Ile Thr Leu Glu Leu Ala	Ser Gln Pro Val Arg	Gln Phe Gly Arg Tyr
325	330	335
Phe Gln Ser Leu Asn Pro	Tyr Asn Asn His Arg	Asn Pro Trp Phe Arg
340	345	350
Asp Phe Trp Glu Gln Lys	Phe Gln Cys Ser Leu	Gln Asn Lys Arg Asn
355	360	365
His Arg Arg Val Cys Glu	Lys His Leu Ala Ile	Asp Ser Ser Asn Tyr
370	375	380
Glu Gln Glu Ser Lys Ile	Met Phe Val Val Asn	Ala Val Tyr Ala Met
385	390	395
Ala His Ala Leu His Lys	Met Gln Arg Thr Leu	Cys Pro Asn Thr Thr
405	410	415
Lys Leu Cys Asp Ala Met	Lys Ile Leu Asp Gly	Lys Lys Leu Tyr Lys
420	425	430
Asp Tyr Leu Leu Lys Ile	Asn Phe Thr Ala Pro	Phe Asn Pro Asn Lys
435	440	445
Asp Ala Asp Ser Ile Val	Lys Phe Asp Thr Phe	Gly Asp Gly Met Gly
450	455	460
Arg Tyr Asn Val Phe Asn	Phe Gln Asn Val Gly	Gly Lys Tyr Ser Tyr
465	470	475
Leu Lys Val Gly His Trp	Ala Glu Thr Leu Ser	Leu Asp Val Asn Ser
485	490	495
Ile His Trp Ser Arg Asn	Ser Val Pro Thr Ser	Gln Cys Ser Asp Pro
500	505	510
Cys Ala Pro Asn Glu Met	Lys Asn Met Gln Pro	Gly Asp Val Cys Cys
515	520	525
Trp Ile Cys Ile Pro Cys	Glu Pro Tyr Glu Tyr	Leu Ala Asp Glu Phe
530	535	540
Thr Cys Met Asp Cys Gly	Ser Gly Gln Trp Pro	Thr Ala Asp Leu Thr
545	550	555
Gly Cys Tyr Asp Leu Pro	Glu Asp Tyr Ile Arg	Trp Glu Asp Ala Trp
565	570	575
Ala Ile Gly Pro Val Thr	Ile Ala Cys Leu Gly	Phe Met Cys Thr Cys
580	585	590
Met Val Val Thr Val Phe	Ile Lys His Asn Asn	Thr Pro Leu Val Lys
595	600	605
Ala Ser Gly Arg Glu Leu	Cys Tyr Ile Leu Leu	Phe Gly Val Gly Leu
610	615	620
Ser Tyr Cys Met Thr Phe	Phe Phe Phe Ile Ala	Lys Pro Ser Pro Val Ile
625	630	635
Cys Ala Leu Arg Arg Leu	Gly Leu Gly Ser Ser	Phe Ala Ile Cys Tyr
645	650	655

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Ser Ala Leu Leu Thr Lys Thr Asn Cys Ile Ala Arg Ile Phe Asp Gly
      660      665      670
Val Lys Asn Gly Ala Gln Arg Pro Lys Phe Ile Ser Pro Ser Ser Gln
      675      680      685

Val Phe Ile Cys Leu Gly Leu Ile Ser Val Gln Ile Val Met Val Ser
      690      695      700
Val Trp Leu Ile Leu Glu Ala Pro Gly Thr Arg Arg Tyr Thr Leu Ala
705      710      715      720
Glu Lys Arg Glu Thr Val Ile Leu Lys Cys Asn Val Lys Asp Ser Ser
      725      730      735
Met Leu Ile Ser Leu Thr Tyr Asp Val Ile Leu Val Ile Leu Cys Thr
      740      745      750
Val Tyr Ala Phe Lys Thr Arg Lys Cys Pro Glu Asn Phe Asn Glu Ala
      755      760      765
Lys Phe Ile Gly Phe Thr Met Tyr Thr Thr Cys Ile Ile Trp Leu Ala
      770      775      780
Phe Leu Pro Ile Phe Tyr Val Thr Ser Ser Asp Tyr Arg Val Gln Thr
785      790      795      800
Thr Thr Met Cys Ile Ser Val Ser Leu Ser Gly Phe Val Val Leu Gly
      805      810      815
Cys Leu Phe Ala Pro Lys Val His Ile Leu Phe Gln Pro Gln Lys
      820      825      830
Asn Val Val Thr His Arg Leu His Leu Asn Arg Phe Ser Val Ser Gly
      835      840      845
Thr Gly Thr Thr Tyr Ser Gln Ser Ser Ala Ser Thr Tyr Val Pro Thr
      850      855      860
Val Cys Asn Gly Arg Glu Val Leu Asp Ser Thr Thr Ser Ser Leu Thr
865      870      875      880

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<210> 37  
 <211> 880  
 <212> PRT  
 <213> Human

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<400> 37
Met Lys Met Leu Thr Arg Leu Gln Val Leu Thr Leu Ala Leu Phe Ser
 1      5      10
Lys Gly Phe Leu Leu Ser Leu Gly Asp His Asn Phe Leu Arg Arg Glu
      20      25      30
Ile Lys Ile Glu Gly Asp Leu Val Leu Gly Gly Leu Phe Pro Ile Asn
      35      40      45
Glu Lys Gly Thr Gly Thr Glu Glu Cys Gly Arg Ile Asn Glu Asp Arg
      50      55      60
Gly Ile Gln Arg Leu Glu Ala Met Leu Phe Ala Ile Asp Glu Ile Asn
65      70      75      80
Lys Asp Asp Tyr Leu Leu Pro Gly Val Lys Leu Gly Val His Ile Leu
      85      90      95
Asp Thr Cys Ser Arg Asp Thr Tyr Ala Leu Glu Gln Ser Leu Glu Phe
      100      105      110
Val Arg Ala Ser Leu Thr Lys Val Asp Glu Ala Glu Tyr Met Cys Pro
      115      120      125
Asp Gly Ser Tyr Ala Ile Gln Glu Asn Ile Pro Leu Leu Ile Ala Gly
130      135      140

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Val	Ile	Gly	Gly	Ser	Tyr	Ser	Ser	Val	Ser	Ile	Gln	Val	Ala	Asn	Leu
145					150					155					160
Leu	Arg	Leu	Phe	Gln	Ile	Pro	Gln	Ile	Ser	Tyr	Ala	Ser	Thr	Ser	Ala
				165					170					175	
Lys	Leu	Ser	Asp	Lys	Ser	Arg	Tyr	Asp	Tyr	Phe	Ala	Arg	Thr	Val	Pro
			180					185					190		
Pro	Asp	Phe	Tyr	Gln	Ala	Lys	Ala	Met	Ala	Glu	Ile	Leu	Arg	Phe	Phe
		195					200					205			
Asn	Trp	Thr	Tyr	Val	Ser	Thr	Val	Ala	Ser	Glu	Gly	Asp	Tyr	Gly	Glu
	210					215					220				
Thr	Gly	Ile	Glu	Ala	Phe	Glu	Gln	Glu	Ala	Arg	Leu	Arg	Asn	Ile	Cys
225					230					235					240
Ile	Ala	Thr	Ala	Glu	Lys	Val	Gly	Arg	Ser	Asn	Ile	Arg	Lys	Ser	Tyr
				245					250					255	
Asp	Ser	Val	Ile	Arg	Glu	Leu	Leu	Gln	Lys	Pro	Asn	Ala	Arg	Val	Val
			260					265					270		
Val	Leu	Phe	Met	Arg	Ser	Asp	Asp	Ser	Arg	Glu	Leu	Ile	Ala	Ala	Ala
		275					280					285			
Ser	Arg	Ala	Asn	Ala	Ser	Phe	Thr	Trp	Val	Ala	Ser	Asp	Gly	Trp	Gly
	290					295				300					
Ala	Gln	Glu	Ser	Ile	Ile	Lys	Gly	Ser	Glu	His	Val	Ala	Tyr	Gly	Asp
305					310					315					320
Ile	Thr	Leu	Glu	Leu	Ala	Ser	Gln	Pro	Val	Arg	Gln	Phe	Gly	Arg	Tyr
				325					330					335	
Phe	Gln	Ser	Leu	Asn	Pro	Tyr	Asn	Asn	His	Arg	Asn	Pro	Trp	Phe	Arg
			340					345					350		
Asp	Phe	Trp	Glu	Gln	Lys	Phe	Gln	Cys	Ser	Leu	Gln	Asn	Lys	Arg	Asn
		355					360					365			
His	Arg	Arg	Val	Cys	Glu	Lys	His	Leu	Ala	Ile	Asp	Ser	Ser	Asn	Tyr
	370					375					380				
Glu	Gln	Glu	Ser	Lys	Ile	Met	Phe	Val	Val	Asn	Ala	Val	Tyr	Ala	Met
385					390					395					400
Ala	His	Ala	Leu	His	Lys	Met	Gln	Arg	Thr	Leu	Cys	Pro	Asn	Thr	Thr
				405					410					415	
Lys	Leu	Cys	Asp	Ala	Met	Lys	Ile	Leu	Asp	Gly	Lys	Lys	Leu	Tyr	Lys
			420					425					430		
Asp	Tyr	Leu	Leu	Lys	Ile	Asn	Phe	Thr	Ala	Pro	Phe	Asn	Pro	Asn	Lys
		435					440					445			
Asp	Ala	Asp	Ser	Ile	Val	Lys	Phe	Asp	Thr	Phe	Gly	Asp	Gly	Met	Gly
	450					455					460				
Arg	Tyr	Asn	Val	Phe	Asn	Phe	Gln	Asn	Val	Gly	Gly	Lys	Tyr	Ser	Tyr
465					470					475					480
Leu	Lys	Val	Gly	His	Trp	Ala	Glu	Thr	Leu	Ser	Leu	Asp	Val	Asn	Ser
				485					490					495	
Ile	His	Trp	Ser	Arg	Asn	Ser	Val	Pro	Thr	Ser	Gln	Cys	Ser	Asp	Pro
			500					505					510		
Cys	Ala	Pro	Asn	Glu	Met	Lys	Asn	Met	Gln	Pro	Gly	Asp	Val	Cys	Cys
		515					520					525			
Trp	Ile	Cys	Ile	Pro	Cys	Glu	Pro	Tyr	Glu	Tyr	Leu	Ala	Asp	Glu	Phe
	530					535					540				
Thr	Cys	Met	Asp	Cys	Gly	Ser	Gly	Gln	Trp	Pro	Thr	Ala	Asp	Leu	Thr
545					550					555					560
Gly	Cys	Tyr	Asp	Leu	Pro	Glu	Asp	Tyr	Ile	Arg	Trp	Glu	Asp	Ala	Trp
				565					570					575	
Ala	Ile	Gly	Pro	Val	Thr	Ile	Ala	Cys	Leu	Gly	Phe	Met	Cys	Thr	Cys

			580					585					590				
Met	Val	Val	Thr	Val	Phe	Ile	Lys	His	Asn	Asn	Thr	Pro	Leu	Val	Lys		
		595					600					605					
Ala	Ser	Gly	Arg	Glu	Leu	Cys	Tyr	Ile	Leu	Leu	Phe	Gly	Val	Gly	Leu		
	610					615					620						
Ser	Tyr	Cys	Met	Thr	Phe	Phe	Phe	Ile	Ala	Lys	Pro	Ser	Pro	Val	Ile		
625					630					635					640		
Cys	Ala	Leu	Arg	Arg	Leu	Gly	Leu	Gly	Ser	Ser	Phe	Ala	Ile	Cys	Tyr		
			645						650					655			
Ser	Ala	Leu	Leu	Thr	Lys	Thr	Asn	Cys	Ile	Ala	Arg	Ile	Phe	Asp	Gly		
		660						665					670				
Val	Lys	Asn	Gly	Ala	Gln	Arg	Pro	Lys	Phe	Ile	Ser	Pro	Ser	Ser	Gln		
	675						680					685					
Val	Phe	Ile	Cys	Leu	Gly	Leu	Ile	Ser	Gly	Gln	Ile	Val	Met	Val	Ser		
	690					695					700						
Val	Trp	Leu	Ile	Leu	Glu	Ala	Pro	Gly	Thr	Arg	Arg	Tyr	Thr	Leu	Ala		
705					710					715					720		
Glu	Lys	Arg	Glu	Thr	Val	Ile	Leu	Lys	Cys	Asn	Val	Lys	Asp	Ser	Ser		
			725						730					735			
Met	Leu	Ile	Ser	Leu	Thr	Tyr	Asp	Val	Ile	Leu	Val	Ile	Leu	Cys	Thr		
		740					745						750				
Val	Tyr	Ala	Phe	Lys	Thr	Arg	Lys	Cys	Pro	Glu	Asn	Phe	Asn	Glu	Ala		
	755						760					765					
Lys	Phe	Ile	Gly	Phe	Thr	Met	Tyr	Thr	Thr	Cys	Ile	Ile	Trp	Leu	Ala		
	770					775					780						
Phe	Leu	Pro	Ile	Phe	Tyr	Val	Thr	Ser	Ser	Asp	Tyr	Arg	Val	Gln	Thr		
785					790					795					800		
Thr	Thr	Met	Cys	Ile	Ser	Val	Ser	Leu	Ser	Gly	Phe	Val	Val	Leu	Gly		
			805						810					815			
Cys	Leu	Phe	Ala	Pro	Lys	Val	His	Ile	Ile	Leu	Phe	Gln	Pro	Gln	Lys		
		820						825					830				
Asn	Val	Val	Thr	His	Arg	Leu	His	Leu	Asn	Arg	Phe	Ser	Val	Ser	Gly		
	835						840					845					
Thr	Gly	Thr	Thr	Tyr	Ser	Gln	Ser	Ser	Ala	Ser	Thr	Tyr	Val	Pro	Thr		
	850					855					860						
Val	Cys	Asn	Gly	Arg	Glu	Val	Leu	Asp	Ser	Thr	Thr	Ser	Ser	Leu	Thr		
865					870					875					880		

<210> 38  
 <211> 880  
 <212> PRT  
 <213> Human

<400> 38

Met	Lys	Met	Leu	Thr	Arg	Leu	Gln	Val	Leu	Thr	Leu	Ala	Leu	Phe	Ser
1				5					10					15	
Lys	Gly	Phe	Leu	Leu	Ser	Leu	Gly	Asp	His	Asn	Phe	Leu	Arg	Arg	Glu
			20					25					30		
Ile	Lys	Ile	Glu	Gly	Asp	Leu	Val	Leu	Gly	Gly	Leu	Phe	Pro	Ile	Asn
		35					40					45			
Glu	Lys	Gly	Thr	Gly	Thr	Glu	Glu	Cys	Gly	Arg	Ile	Asn	Glu	Asp	Arg
	50					55					60				
Gly	Ile	Gln	Arg	Leu	Glu	Ala	Met	Leu	Phe	Ala	Ile	Asp	Glu	Ile	Asn
65					70					75					80

Lys	Asp	Asp	Tyr	Leu	Leu	Pro	Gly	Val	Lys	Leu	Gly	Val	His	Ile	Leu
				85					90					95	
Asp	Thr	Cys	Ser	Arg	Asp	Thr	Tyr	Ala	Leu	Glu	Gln	Ser	Leu	Glu	Phe
			100					105					110		
Val	Arg	Ala	Ser	Leu	Thr	Lys	Val	Asp	Glu	Ala	Glu	Tyr	Met	Cys	Pro
		115					120					125			
Asp	Gly	Ser	Tyr	Ala	Ile	Gln	Glu	Asn	Ile	Pro	Leu	Leu	Ile	Ala	Gly
	130					135					140				
Val	Ile	Gly	Gly	Ser	Tyr	Ser	Ser	Val	Ser	Ile	Gln	Val	Ala	Asn	Leu
145					150					155					160
Leu	Arg	Leu	Phe	Gln	Ile	Pro	Gln	Ile	Ser	Tyr	Ala	Ser	Thr	Ser	Ala
				165					170					175	
Lys	Leu	Ser	Asp	Lys	Ser	Arg	Tyr	Asp	Tyr	Phe	Ala	Arg	Thr	Val	Pro
			180					185					190		
Pro	Asp	Phe	Tyr	Gln	Ala	Lys	Ala	Met	Ala	Glu	Ile	Leu	Arg	Phe	Phe
		195					200					205			
Asn	Trp	Thr	Tyr	Val	Ser	Thr	Val	Ala	Ser	Glu	Gly	Asp	Tyr	Gly	Glu
	210					215					220				
Thr	Gly	Ile	Glu	Ala	Phe	Glu	Gln	Glu	Ala	Arg	Leu	Arg	Asn	Ile	Cys
225					230					235					240
Ile	Ala	Thr	Ala	Glu	Lys	Val	Gly	Arg	Ser	Asn	Ile	Arg	Lys	Ser	Tyr
				245					250					255	
Asp	Ser	Val	Ile	Arg	Glu	Leu	Leu	Gln	Lys	Pro	Asn	Ala	Arg	Val	Val
			260					265					270		
Val	Leu	Phe	Met	Arg	Ser	Asp	Asp	Ser	Arg	Glu	Leu	Ile	Ala	Ala	Ala
		275					280					285			
Ser	Arg	Ala	Asn	Ala	Ser	Phe	Thr	Trp	Val	Ala	Ser	Asp	Gly	Trp	Gly
	290					295					300				
Ala	Gln	Glu	Ser	Ile	Ile	Lys	Gly	Ser	Glu	His	Val	Ala	Tyr	Gly	Asp
305					310					315					320
Ile	Thr	Leu	Glu	Leu	Ala	Ser	Gln	Pro	Val	Arg	Gln	Phe	Gly	Arg	Tyr
				325					330					335	
Phe	Gln	Ser	Leu	Asn	Pro	Tyr	Asn	Asn	His	Arg	Asn	Pro	Trp	Phe	Arg
			340				345						350		
Asp	Phe	Trp	Glu	Gln	Lys	Phe	Gln	Cys	Ser	Leu	Gln	Asn	Lys	Arg	Asn
		355					360					365			
His	Arg	Arg	Val	Cys	Glu	Lys	His	Leu	Ala	Ile	Asp	Ser	Ser	Asn	Tyr
	370					375					380				
Glu	Gln	Glu	Ser	Lys	Ile	Met	Phe	Val	Val	Asn	Ala	Val	Tyr	Ala	Met
385					390					395					400
Ala	His	Ala	Leu	His	Lys	Met	Gln	Arg	Thr	Leu	Cys	Pro	Asn	Thr	Thr
				405					410					415	
Lys	Leu	Cys	Asp	Ala	Met	Lys	Ile	Leu	Asp	Gly	Lys	Lys	Leu	Tyr	Lys
			420					425					430		
Asp	Tyr	Leu	Leu	Lys	Ile	Asn	Phe	Thr	Ala	Pro	Phe	Asn	Pro	Asn	Lys
		435					440					445			
Asp	Ala	Asp	Ser	Ile	Val	Lys	Phe	Asp	Thr	Phe	Gly	Asp	Gly	Met	Gly
	450					455					460				
Arg	Tyr	Asn	Val	Phe	Asn	Phe	Gln	Asn	Val	Gly	Gly	Lys	Tyr	Ser	Tyr
465					470					475					480
Leu	Lys	Val	Gly	His	Trp	Ala	Glu	Thr	Leu	Ser	Leu	Asp	Val	Asn	Ser
				485					490					495	
Ile	His	Trp	Ser	Arg	Asn	Ser	Val	Pro	Thr	Ser	Gln	Cys	Ser	Asp	Pro
			500					505					510		
Cys	Ala	Pro	Asn	Glu	Met	Lys	Asn	Met	Gln	Pro	Gly	Asp	Val	Cys	Cys

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<400> 39
Met Lys Met Leu Thr Arg Leu Gln Val Leu Thr Leu Ala Leu Phe Ser
 1           5           10          15
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Lys	Gly	Phe	Leu	Leu	Ser	Leu	Gly	Asp	His	Asn	Phe	Leu	Arg	Arg	Glu	
			20					25					30			
Ile	Lys	Ile	Glu	Gly	Asp	Leu	Val	Leu	Gly	Gly	Leu	Phe	Pro	Ile	Asn	
		35					40					45				
Glu	Lys	Gly	Thr	Gly	Thr	Glu	Glu	Cys	Gly	Arg	Ile	Asn	Glu	Asp	Arg	
	50					55					60					
Gly	Ile	Gln	Arg	Leu	Glu	Ala	Met	Leu	Phe	Ala	Ile	Asp	Glu	Ile	Asn	
65					70					75					80	
Lys	Asp	Asp	Tyr	Leu	Leu	Pro	Gly	Val	Lys	Leu	Gly	Val	His	Ile	Leu	
			85						90					95		
Asp	Thr	Cys	Ser	Arg	Asp	Thr	Tyr	Ala	Leu	Glu	Gln	Ser	Leu	Glu	Phe	
			100					105					110			
Val	Arg	Ala	Ser	Leu	Thr	Lys	Val	Asp	Glu	Ala	Glu	Tyr	Met	Cys	Pro	
		115					120					125				
Asp	Gly	Ser	Tyr	Ala	Ile	Gln	Glu	Asn	Ile	Pro	Leu	Leu	Ile	Ala	Gly	
	130					135					140					
Val	Ile	Gly	Gly	Ser	Tyr	Ser	Ser	Val	Ser	Ile	Gln	Val	Ala	Asn	Leu	
145					150					155					160	
Leu	Arg	Leu	Phe	Gln	Ile	Pro	Gln	Ile	Ser	Tyr	Ala	Ser	Thr	Ser	Ala	
			165					170						175		
Lys	Leu	Ser	Asp	Lys	Ser	Arg	Tyr	Asp	Tyr	Phe	Ala	Arg	Thr	Val	Pro	
			180					185					190			
Pro	Asp	Phe	Tyr	Gln	Ala	Lys	Ala	Met	Ala	Glu	Ile	Leu	Arg	Phe	Phe	
		195				200						205				
Asn	Trp	Thr	Tyr	Val	Ser	Thr	Val	Ala	Ser	Glu	Gly	Asp	Tyr	Gly	Glu	
	210					215					220					
Thr	Gly	Ile	Glu	Ala	Phe	Glu	Gln	Glu	Ala	Arg	Leu	Arg	Asn	Ile	Cys	
225					230					235					240	
Ile	Ala	Thr	Ala	Glu	Lys	Val	Gly	Arg	Ser	Asn	Ile	Arg	Lys	Ser	Tyr	
			245					250						255		
Asp	Ser	Val	Ile	Arg	Glu	Leu	Leu	Gln	Lys	Pro	Asn	Ala	Arg	Val	Val	
		260						265					270			
Val	Leu	Phe	Met	Arg	Ser	Asp	Asp	Ser	Arg	Glu	Leu	Ile	Ala	Ala	Ala	
		275					280					285				
Ser	Arg	Ala	Asn	Ala	Ser	Phe	Thr	Trp	Val	Ala	Ser	Asp	Gly	Trp	Gly	
	290					295				300						
Ala	Gln	Glu	Ser	Ile	Ile	Lys	Gly	Ser	Glu	His	Val	Ala	Tyr	Gly	Asp	
305					310					315					320	
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